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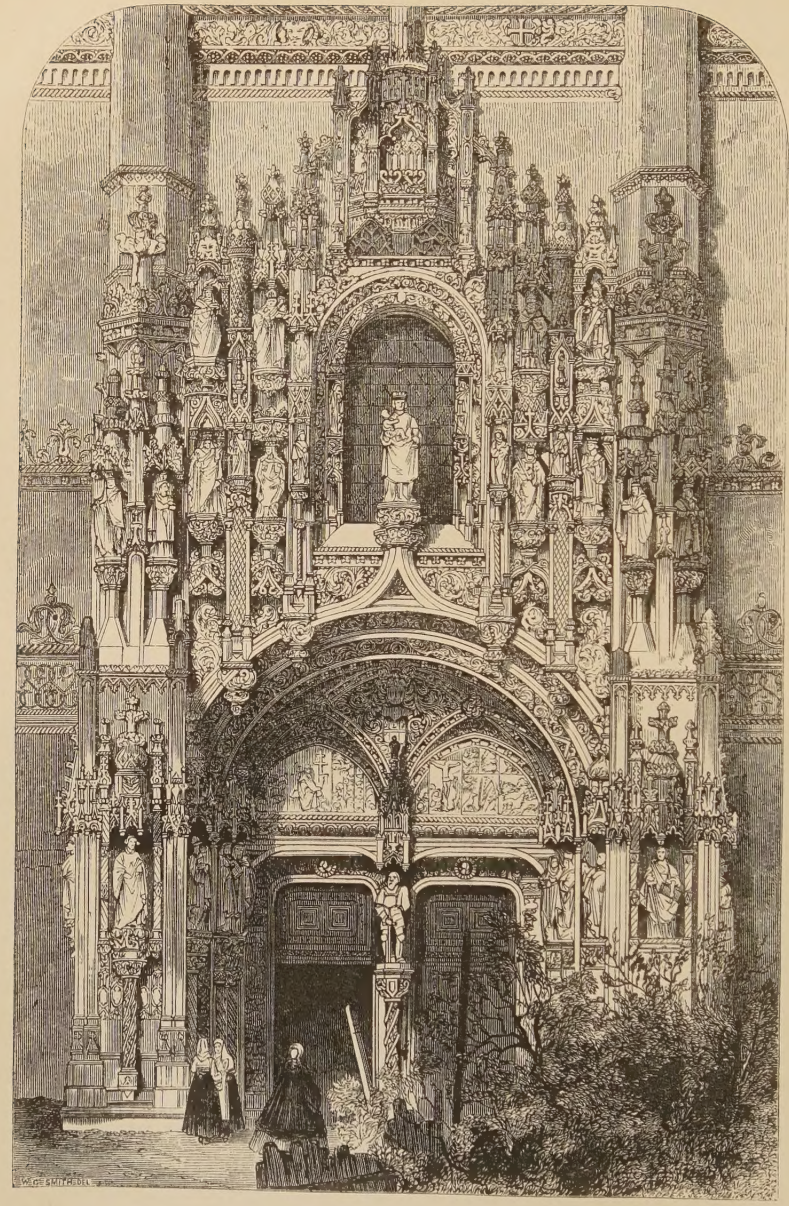


PORTAL OF THE CONVENT AT BELEM, NEAR LISBON

A

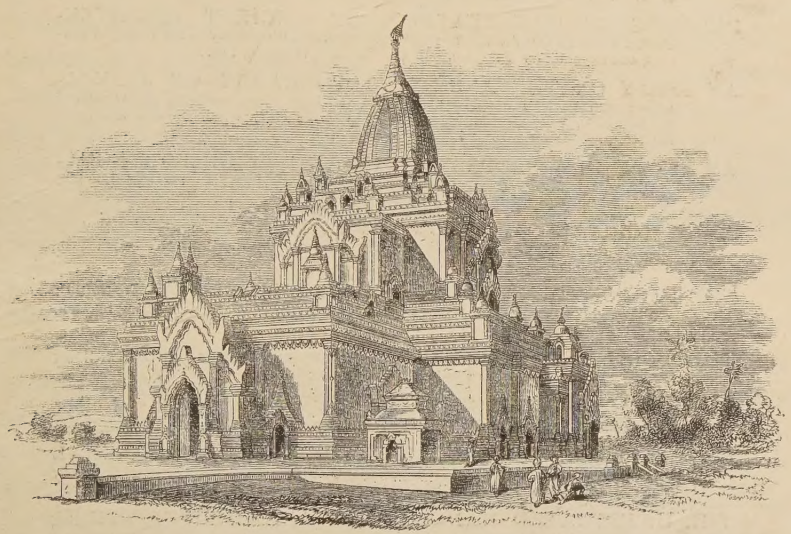
HISTORY OF ARCHITECTURE

IN ALL COUNTRIES,

FROM THE EARLIEST TIMES TO THE PRESENT DAY.

By JAMES FERGUSSON, F.R.S., M.R.A.S.,

FELLOW ROYAL INST. BRIT. ARCHITECTS.



Gaudapalen Pagoda, Burmah

IN THREE VOLUMES.—Vol. II.

LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1867.

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WORKS BY THE SAME AUTHOR.

HISTORY OF THE MODERN STYLES OF ARCHITECTURE. Forming the Third Volume of the 'History of Architecture.' With 312 Illustrations. 8vo. 31*s.* 6*d.* London, Murray, 1862.

ILLUSTRATIONS OF THE ROCK-CUT TEMPLES OF INDIA. 18 Plates in Tinted Lithography, folio: with an 8vo. volume of Text, Plans, &c. 2*l.* 7*s.* 6*d.* London, Weale, 1845.

PICTURESQUE ILLUSTRATIONS OF ANCIENT ARCHITECTURE IN HINDOSTAN. 24 Plates in Coloured Lithography, with Plans, Woodcuts, and explanatory Text, &c. 4*l.* 4*s.* London, Hogarth, 1847.

AN ESSAY ON THE ANCIENT TOPOGRAPHY OF JERUSALEM; with restored Plans of the Temple, and with Plans, Sections, and Details of the Church built by Constantine the Great over the Holy Sepulchre, now known as the Mosque of Omar. 16*s.* London, Weale, 1847.

AN ESSAY ON A PROPOSED NEW SYSTEM OF FORTIFICATION, with Hints for its Application to our National Defences. 12*s.* 6*d.* London, Weale, 1849.

AN HISTORICAL INQUIRY INTO THE TRUE PRINCIPLES OF BEAUTY IN ART, more especially with reference to Architecture. Royal 8vo. 31*s.* 6*d.* London, Longmans, 1849.

THE PALACES OF NINEVEH AND PERSEPOLIS RESTORED: An Essay on Ancient Assyrian and Persian Architecture. 8vo. 16*s.* London, Murray, 1851.

THE PERIL OF PORTSMOUTH. French Fleets and English Forts. Plan. 8vo. 3*s.* London, Murray, 1853.

PORTSMOUTH PROTECTED: with Notes on Sebastopol and other Sieges during the Present War. Plans. 8vo. 3*s.* London, Murray, 1856.

OBSERVATIONS ON THE BRITISH MUSEUM, NATIONAL GALLERY, and NATIONAL RECORD OFFICE; with Suggestions for their Improvement. 8vo. London, Weale, 1859.

THE ILLUSTRATED HANDBOOK OF ARCHITECTURE. Being a Concise and Popular Account of the Different Styles prevailing in all Ages and all Countries. With 850 Illustrations. 8vo. 26*s.* London, Murray, 1859.

NOTES ON THE SITE OF THE HOLY SEPULCHRE AT JERUSALEM. An answer to 'The Edinburgh Review.' 2*s.* 6*d.* London, Murray, 1861.

THE MAUSOLEUM AT HALICARNASSUS RESTORED, in Conformity with the Remains recently discovered. Plates. 4to. 7*s.* 6*d.* London, Murray, 1862.

THE HOLY SEPULCHRE AND THE TEMPLE AT JERUSALEM. Being the Substance of Two Lectures delivered in the Royal Institution, Albemarle Street, on the 21st February, 1862, and 3rd March, 1865. Woodcuts. 8vo. 7*s.* 6*d.* London, Murray, 1865.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET, AND CHARING CROSS.

PREFACE.

In passing the present volume through the press, it has been found necessary to re-write and re-model the corresponding chapters in the 'Handbook of Architecture' to a much greater extent than was originally anticipated, or than had been requisite in the preceding parts of the work. The whole of the English chapter has been re-written from beginning to end. The history of architecture in Spain has been entirely re-modelled. The account of the buildings in Southern Italy is a new feature in the description of the styles in that peninsula, and has required a new arrangement of the whole subject. The works of Texier and De Vogüé, with my own recent observations in the East, have necessitated an entirely new treatment of the Byzantine style, and of the Turkish architecture which was based upon it. Increased knowledge has rendered it necessary to re-write and nearly to double the extent of the chapters which treat of the Indian styles, and in those on Cashmere and Cambodia, all that refers to the last-named country is entirely new matter; while the account of the architecture of China and Mexico has also been re-written. The practical result of all this is that of the 500 pages of the 'Handbook of Architecture' which treat of the same subjects as those comprised in this volume, one-half, at least, has been cancelled, and the half that is reprinted is merely that which contains the technical descriptions of particular buildings. All that refers to the history or philosophy of the subject has been re-written, and more than 250 pages of new matter have been added.

The same is true as regards the illustrations. The number of woodcuts in the chapters of the Handbook which are comprised in the present volume, was 405; in the present volume they number 646; so that more than one-third of them are absolutely new to the work; but, in addition to this, a considerable number of the old woodcuts have been cancelled and other and better examples given

in their stead: they are thus equally new to the work, though the actual number of illustrations is not increased by the substitution. The present volume may therefore fairly be considered as a new work, of which about one-third of the text and one-half of the illustrations only are borrowed from the 'Handbook of Architecture.'

I trust, however, that it is not only in increased dimensions that this work may be considered as an improvement on its predecessor. In the course of revision, many errors in the former work have been detected, and many minor blemishes removed. Much of this I gratefully acknowledge to be due to the very careful revision of the sheets as they were passing through the press, by my friend Mr. Grove of Sydenham.

In one respect I have to apologize for not keeping a promise made in the preface to the first volume. It was there intimated that the present volume would contain a chapter on Celtic or Megalithic antiquities. When, however, the work came to be re-written, I found it necessary, in order to keep the volume within bounds, to leave unsaid so much I wished to say, and to omit so many illustrations which would have added to the clearness and interest of the whole, that eventually I found myself forced to abandon the attempt. As it is, the volume exceeds the first to the extent of more than 100 pages, and it would have required at least that number in addition to have treated the promised subject in a manner at all satisfactory. I may therefore take this opportunity of saying that nothing I learnt in the investigations made for the purposes of this intended chapter has made me waver in the opinion I have previously expressed with regard to the age of these antiquities. I consider all the stone monuments to be of what antiquaries now style the Iron Age —viz., from one to two centuries before Christ to the time of the introduction of Christianity in the country where they are found. This, however, does not appear to me to affect the question of the age of the Barrows, or earthen monuments, found sometimes in juxtaposition with them. Some of these we know to be also of the Iron Age, but many are no doubt of very remote antiquity. Whatever the age of the Barrows may eventually be determined to be, it seems to me to have only a remote bearing on that of the stone monuments. So far as I have been able to form an opinion, the two

questions are quite distinct, and the age of the stone and of the earth monuments must be separately examined if we are to arrive at any satisfactory conclusions on the subject.

The work may now be considered complete. The 'History of Modern Architecture,' which forms the third volume, and takes up the story where this volume leaves off, justifies the announcement on the title-page that the work now contains notices of the "architecture of all countries from the earliest ages to the present day." I am not aware of any important style which has been omitted, nor is it likely that any new styles remain to be discovered. Still, what has recently occurred in Cambodia ought to make us pause before relying too much on such an assumption; and there are still regions in Northern Asia and Western China into which no European has penetrated in modern times, but whose history would lead us to expect that ruins of great interest may still remain to be described.

In conclusion, I may, perhaps, be allowed to amplify a little the announcement of the title-page by explaining a little more fully than it can do what the work now finished really pretends to be, and in what it differs from other books on the same subject. It is, so far as I know, the first attempt to write a universal history of architecture in which each style shall occupy exactly that amount of space which the extent of its buildings or their merit would appear to justify. In the works hitherto published in England, France, or Germany, the history of the local styles of those countries is so amplified as to occupy, it may be, a half or two-thirds of the work, of course at the expense of the space allotted to foreign styles. This is not imputed as blame to their authors, on the contrary such a treatment is likely to be much more popular than any other. A style that people know and understand is much more interesting than one which it requires an effort to master, and which cannot be comprehended without great labour and study. An author who is wise will strive to meet a legitimate demand of this sort; but this, so far from precluding the desirability of more general works, rather seems to necessitate their production, though they must, from their nature, be much less generally attractive.

In the next place, an attempt has been persevered in throughout

the whole of this work to apply one law of criticism to all styles, ancient and modern, eastern and western. An endeavour has been made to explain why one building has been successful or another failed, by a reference to those principles of design in architecture which seem to be universal, and, at all events, are easily understood, and consequently, if mistaken, the induction is from so wide a field that it will be easy to point out where the error lies. My impression is that if this work renders the discussion of these principles more easy, it will have served a most important purpose, which cannot fail to have great influence on the styles of the future.

If an author may be allowed to express an opinion as to what is the most novel or important feature of his work, I should be inclined to claim its Ethnography for mine. My impression is that unless the essential affinities of styles are perceived, and their affiliation can be traced, the history of architecture is a mere *memoria technica* for connecting buildings together; but whenever their true relations are grasped, their history rises to the dignity of a science. My conviction is, that when properly appreciated, Architecture will be considered as important in tracing the affinities of races as Language; and that, in many cases, it is even more so, because more fixed and more easily read, while it is quite as essentially characteristic. So deeply impressed am I with the importance of this element, not only to the art of Architecture, but to the science of mankind, that I feel that if I have been enabled to place it in a clear and intelligible form, I shall not have lived or laboured in vain.

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ERRATA.

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Page 78, 6th line from bottom, *for* "destroyed" *read* "despoiled."
„ 207, 17th „ top, *for* "Spiegenthal" *read* "Spiegelthal."
„ 404, 9th „ „ *for* "guage" *read* "gauge."
„ 442, 6th and 4th lines from bottom, *for* "aspidal" *read* "apsidal."
„ 544, 12th line from bottom, *for* "Vienne," *read* "Vienna."

VOL. II.

Page 759, in the foot-note, the 'Voyage de Tehuantepec,' by the Abbé Brasseur de Bourbourg, has been inadvertently quoted, instead of the 'Histoire des Nations Civilizées du Mexique et de l'Amérique Centrale,' by the same author.

HISTORY OF ARCHITECTURE.

PART II.

CHRISTIAN ARCHITECTURE.

(Continued.)

HISTORY OF ARCHITECTURE.

PART II.—CHRISTIAN ARCHITECTURE.

(Continued.)

BOOK VI.

CHAPTER I.

INTRODUCTORY.

ENGLAND.

It is perhaps not too much to assert that during the middle ages Architecture was practised in England with even greater success than among any of the contemporary nations. In beauty of detail and elegance of proportion the English cathedrals generally surpass their Continental rivals. It is only in dimensions and mechanical construction that they are sometimes inferior. So lovingly did the people of the country adhere to the Art, that the Gothic forms clung to the soil long after they had been superseded on the Continent by the classical Renaissance; and the English returned to their old love long before other nations had got over their contempt for the rude barbarism of their ancestors. It is now more than a century since Horace Walpole conceived the idea of reproducing the beauties of York Minster and Westminster Abbey in a lath-and-plaster villa at Strawberry Hill. The attempt, as we now know, was ridiculous enough; but the result on the Arts of the country most important. From that day to this, Gothic villas, Gothic lodges, and Gothic churches have been the fashion—at first timidly, and wonderfully misunderstood, but now the rage, and with an almost perfect power of imitation. The result of this revived feeling for Mediæval art which interests us most in this place is, that every Gothic building in the country has been

carefully examined and its peculiarities noted. All the more important examples have been drawn and published; their dates and histories ascertained as far as possible, and the whole subject rendered complete and intelligible. The only difficulty that remains is, that the works in which the illustrations of English art are contained range over 70 or 80 years—the early ones published before the subject was properly understood; and that they are in all shapes and sizes, from the most ponderous folios to the most diminutive of duodecimos. Their number too is legion, and they therefore often go over the same ground. The one book that now seems wanted to complete the series of publications on the subject, is a clear and concise, but complete, narrative of the rise and progress of the style, with just a sufficient amount of illustration to render it intelligible. Two volumes in 8vo., of 500 pages each, might suffice for the distillation of all that is contained in the 1001 volumes above alluded to; and 1000 illustrations, if well selected, would render the forms and peculiarities of the style sufficiently clear.[1] But less would certainly not suffice.

Under these circumstances it will be easily understood that nothing of the sort can be attempted in this work. With only one-tenth of the requisite space available, and less than that proportion of illustration, all that can be proposed is to sketch the great leading features of the subject, to estimate the value of the practice of the English architects as compared with those on the Continent, and to point out the differences which arose between their methods and ours, in consequence of either the local or social peculiarities of the various nationalities.

This compression is hardly to be regretted in the present instance, since any one may with very little trouble master the main features of the history in some of the many popular works which have been published on the subject, and all have access to the buildings themselves. It need hardly be added, that these are far better and truer exponents of the feelings and aspirations of those who erected them than all the books that ever were written. Unless a man learns to read the lessons these stone books so vividly convey, by an earnest personal investigation of the monuments themselves, of one style at least, he will hardly ever be able to understand the subject; but for the purpose of such a study the English mediæval architecture is perhaps the most complete and perfect. Nowhere else can all the gradations of change be so easily traced; and in no other style was there so little interference from extraneous causes. Throughout, the English sought only to erect the building then most suitable to its destination, with the best materials available for the purpose; and the result is therefore generally more satisfactory and more harmonious than elsewhere.

[1] From his complete knowledge of the subject, Professor Willis could supply this desideratum, with very little trouble to himself and certain profit to his publishers.

History.

CHRONOLOGY.

		Years' duration.	Name of style.
Departure of Romans	400	300	Megalithic or Celtic.
Arthur	480 to 542		
To establishment of Heptarchy	700		
To Conquest	..	366	Early round-arched, or Saxon style.
William I.	1066	109	Round-arched style. Norman.
William II.	1087		
Henry I.	1100		
Stephen	1135		
Henry II.	1154		
Henry II.	1175	97	Early pointed Lancet, or Plantagenet style.
Richard I.	1189		
John	1199		
Henry III.	1216		
Edward I.	1272	105	Perfected pointed Decorated or Edwardian style.
Edward II.	1307		
Edward III.	1326		
Richard II.	1377		
Henry IV.	1329	108	Late pointed Perpendicular, or Lancastrian style
Henry V.	1412		
Henry VI.	1422		
Edward IV.	1460		
Edward V.	1483		
Richard III.	1483		
Henry VII.	1485	117	Fan-vaulted Transitional, or Tudor style.
Henry VIII.	1509		
Edward VI.	1546		
Mary	1553		
Elizabeth	1557		
To	1602		

After the departure of the Romans, the various tribes that inhabited the island were left so feebly organised, and so unequally balanced, that they could find no better occupation for their time than that of cutting each other's throats; in which they were afterwards so ably seconded by the Saxons and Danes, that it is in vain to look for any development of the arts of peace among them. They were equal to the erection of a Stonehenge or an Avebury in honour of those who fell in the struggles against their foreign invaders; but beyond this their architectural aspirations do not seem to have reached.

With the establishment of the Heptarchy, and more especially after Alfred's glorious reign, we might expect something better. The country was then converted to Christianity. Churches were wanted; and there were Italian priests to be found who could tell the inhabitants what was being done at Rome and elsewhere on the Continent. But against this we have the knowledge that the dominant race was Saxon or Danish—Aryan *pur sang*—and art had consequently no place in their affections. Their churches were probably small and rude, just sufficient for their purposes, and no more; and designed, like railway stations, to last only till increasing accommodation should compel an alteration. Most probably, too, the greater number were built of wood; and for the true Saxon style we ought perhaps to look to the Norwegian wooden churches, described in the last book—as types of the style—rather than to the towers erected, probably, as additions to the original wooden churches. Of these towers many still remain in our island; but in almost every case the wooden nave has been superseded by one of stone in the pointed-arched style of architecture.

With the Norman Conquest a new state of things was inaugurated. Great tracts of country and great part of the wealth of the conquered

races escheated to the Conqueror, and in the division of the spoil the clergy seem to have been even more fortunate than the laity. But however this were, it will be easily understood that a French Hierarchy vowed to celibacy would be able to find no better way of employing their easily acquired wealth than in the display of architectural magnificence. During the century which succeeded the Conquest, the Saxon cathedrals, with scarcely an exception, were swept away to make room for nobler buildings designed by foreign architects, and all the larger abbey churches were likewise rebuilt. All this was done with such grandeur of conception, and so just an appreciation of the true principles of architectural effect, that even now the Norman nave, in spite of its rudeness, is frequently a more impressive specimen of art than the more polished productions of the succeeding centuries.

The impulse once so nobly given, the good work proceeded steadily but rapidly. During the three centuries which succeeded the Conquest all the artistic intellect of the nation seems to have been concentrated on this one art. Poetry hardly existed, and Painting and Sculpture were only employed as the handmaids of architecture. But year by year new and improved forms of construction were invented and universally adopted. New mouldings, and new applications of carvings and foliage were introduced; and painting on opaque substances and even on glass was carried to an astonishing degree of perfection. All this was done without borrowing and without extraneous aid, but by steadily progressing to a well understood object with a definite aim. It is true that occasionally, as at Westminster Abbey, we detect the influence of French arrangements; but even there the design is carried out in so essentially English a manner, with details so purely English, as to make us feel even more strongly how essentially native the style had become.

The Ethnic combination which led to the marvellous perfection of Gothic art during the Edwardian period was as fortunate as can well be conceived. It was a Celtic hierarchy and noblesse steadied by a Saxon people; with the substratum of an earlier Celtic race, held in absolute subjection by the Saxons, but rising again, at least partially, to the surface, under the Norman domination. It was something like what happened in Athens when a Dorian race was superimposed on one of Pelasgic origin; and, although the conditions were here reversed and the field far more limited, the result was still most successful. Within the limits of a century the French had jumped from the tentative example of St. Denis (1144) to the perfection of the Sainte Chapelle (1244). Our St. Stephen's Chapel was not finished till a century afterwards; but while the French hardly ever went beyond their great 13th century effort, in the 16th century we were building the Royal Chapels at Windsor, Westminster, and Cambridge.

The French wars and the wars of the Roses seem to have altered

the original state of affairs to a very considerable extent. The Norman nobility were decimated—almost, indeed, destroyed—and another stratum of society came gradually to the surface, but this time certainly not Celtic. On the walls of the churches of the Lancastrian period we read—faintly, it must be confessed—the great Saxon motto, "The greatest possible amount of accommodation at the least possible expenditure of money and thought." During this period, too, the cathedral and conventual hierarchies were yielding before the development of the parochial system. It may be wrong to assert that the Reformation began as early as 1400, but it is true that the seeds were then sown which afterwards ripened into the explosion of the Commonwealth. Some very grand churches were no doubt erected during the Lancastrian period, and some beautiful additions made to existing edifices; but they were hard and mechanical as compared with that which preceded them. They were the work of accomplished masons, not wrought out with the feelings of educated gentlemen; and, though we may admire, we cannot quite adore even the best and noblest productions of their age.

Under the Tudors the style went out in a blaze of glory. Nothing can be more gorgeous and fascinating than the three royal chapels, and the other contemporary fan-roofed buildings; but they are like the fabled dying hues of the dolphin—bright and brilliant, but unnatural and fleeting. It was the last spasmodic effort of an expiring style, and soon passed away.

After the Reformation was complete there was no longer any want of new churches, and the great incentive of making a house worthy of the service of God was taken away; so that during Elizabeth's reign architecture was almost wholly occupied in providing new and more extensive mansions for the nobility and landed gentry. Spacious rooms, well-lighted galleries, comfortable chambers, and good accommodation for servants were the demands of the time, with sufficient stateliness, but at the least possible outlay. Comfort and economy are the inherent antitheses of architectural effect; and then, as now, brought the art down from its exalted pedestal almost to the level of a mere useful art. But the Bodleian Library and other buildings in our Universities show that the art lingered even in the 17th century, and that men still looked upon mullions and pinnacles as objects on which a little money might be advantageously spent. But it was no longer the old art: that, was struck down on the battlefield of Towton in 1461, only to be partially galvanised into life at Bosworth, twenty-four years afterwards.

Although Gothic architecture continued to be employed in the Universities and in remote corners of the land long after it had ceased to be practised abroad, it must not therefore be assumed that the people of England generally regarded it with admiration. To them it was the

symbol of a superstition from whose influence they gloried in escaping, or the emblem of a feudal tyranny from which they were just emerging into partial freedom. During Elizabeth's reign the struggle was hardly over; the wounds of the combatants were still fresh and bleeding, the anger of the contest had by no means subsided, and they looked with hate and abhorrence on whatever recalled the stern realities of the past. We can now afford to look on the Middle Ages with far different feelings; our wounds have long since been healed, and hardly a scar remains. Time has thrown its veil of poetry over what was then a mere prosaic matter of fact, hiding those features which were once so repulsive, and softening much which even now it is impossible to forget. They shrunk from what they felt as a reality, we cherish it because it has faded into a dream.

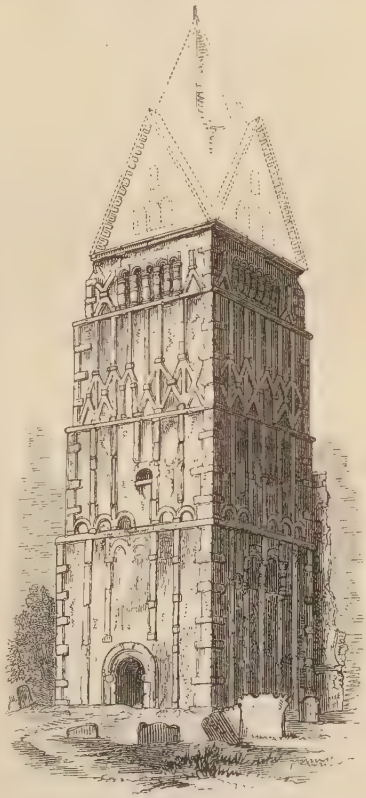
Bearing in mind the prevalence of these feelings, we should not be surprised that so soon as classical art was presented to them the people rushed to it with avidity. The world was then ringing with the praise of the newly disseminated poetry of Vigil, the eloquence of Cicero, and the glorious narratives of Livy. A new light was dawning, and the cry arose on all sides, "Away with the Middle Ages, with their superstition and their tyranny. Roman greatness, Roman literature, and Roman art are to regenerate the world!" We are now convinced that the Classical Renaissance was not successful; but is it quite clear that a Mediæval revival will not prove even a greater and more disastrous mistake?

Be this as it may, in the whole range of artistic history it would be difficult to find any single monograph so complete in itself, or all the details of which are so well known, as that of Mediæval art in England. We know its birth and parentage; we can follow it through youth to the bloom of manhood. We can admire it in the staid maturity of its power, and in the expiring efforts of its failing strength; and we know the causes of its decay and death. To those who are able to grasp it, no story can be more interesting; while to those who desire to understand what architecture really is, how it can be cultivated so as to insure success, and by what agencies it is sure to decay and finally to die, no subject is capable of being more instructively treated.

CHAPTER II.

SAXON ARCHITECTURE.

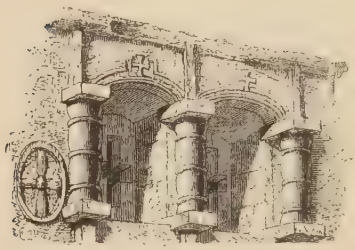
So few and indistinct are the traces of architectural art in England before the Norman Conquest, that for a long time it was a moot point among antiquaries whether or not any such thing existed as true Saxon architecture. The question may now be considered as settled in the affirmative. In his last edition, Rickman enumerates twenty churches in which fragments are found which certainly belong to the pre-Norman period, though no complete example can be pointed to as illustrating the style then prevalent. Since Rickman's death ten or twelve more specimens have been discovered. Generally they are towers or crypts, as St. Winifred's at Ripon, or the pillars of a chancel arch, as at Reculver. Sometimes it is a doorway, at others only a piece of rude walling. On a review of the whole, it is evident that architecture in England was certainly ruder and less developed than that on the Continent at the same age, and differed from it in one curious peculiarity. Both were, of course, based on the Roman art which preceded them; but the Saxon in its ornamentation showed a tendency to wooden forms which we do not find in the others. In Lycia, in India and Egypt, we are able to trace a wooden architecture gradually developing itself out of one of stone; but here we can almost certainly detect a stone architecture becoming wooden from the two materials being constantly employed in juxtaposition, the meaner being generally predominant.



536. Tower of Earl's Barton Church. From 'Britton's Architectural Antiquities.'

Although interesting to English antiquaries, the specimens of Saxon art are so insignificant as hardly to deserve much notice in a universal history of the art, and one example will suffice to explain the pecu-

liarities of the style. The tower of Earl's Barton in Northamptonshire contains in itself more undoubted Saxon characteristics than any other specimen yet described: its angles, as shown in woodcut No. 536, are constructed with that peculiar form of quoin known as "long and short," while its faces are ornamented by long pilaster-like slips connected by semicircular arches, or more frequently by straight-lined cross-bracing very wooden in its character. The windows (woodcut No. 537) are formed by gouty balusters, looking very much as if they were of wood turned in a lathe, and the whole arrangements bear out that character. There is neither grace nor beauty in any feature of the style, nor an approach to grandeur of dimensions in any example which has been spared to the present day.



537. Windows, Earl's Barton.

Had any great conventual church or cathedral survived we might perhaps be forced to modify this opinion; but the only one of which we know anything is that which was erected at Canterbury by Archbishop Odo in the years 940–960, to replace the older church of St. Augustine.[1] Even this, however, we only know from the description of Edmer the singer, who saw it before it was destroyed by fire in 1067. Like the German churches of that age, it seems to have had two apses. The principal one towards the east was appropriated to the clergy; while the western one belonged to the laity, or, as we should now say, was devoted to parochial purposes.

Its walls and structure probably resembled the nave of Mortier en Der (woodcut No. 349), or the Basse Œuvre at Beauvais (woodcut No. 347)—plain piers supporting round arches below, and small circular-headed windows in a plain wall above.

Outside the original church of St. Augustine to the eastward—at what distance we unfortunately are not told—Cuthbert, the second archbishop, about the year 750 erected a circular church, "as a baptistery, and in order that it might serve as the burying-place of future archbishops;"[2] thus combining the two rites in a ceremonial church apart from the Basilica, exactly as was done in Italy during the Romanesque age. It is by no means improbable that the eastern termination of the present cathedral known as Becket's Crown stands on the site of this old baptistery, and retains its dimensions; but it is

[1] This has been restored, as far as the materials admit, by Professor Willis, in his 'Architectural History of Canterbury Cathedral,' published in 1845.

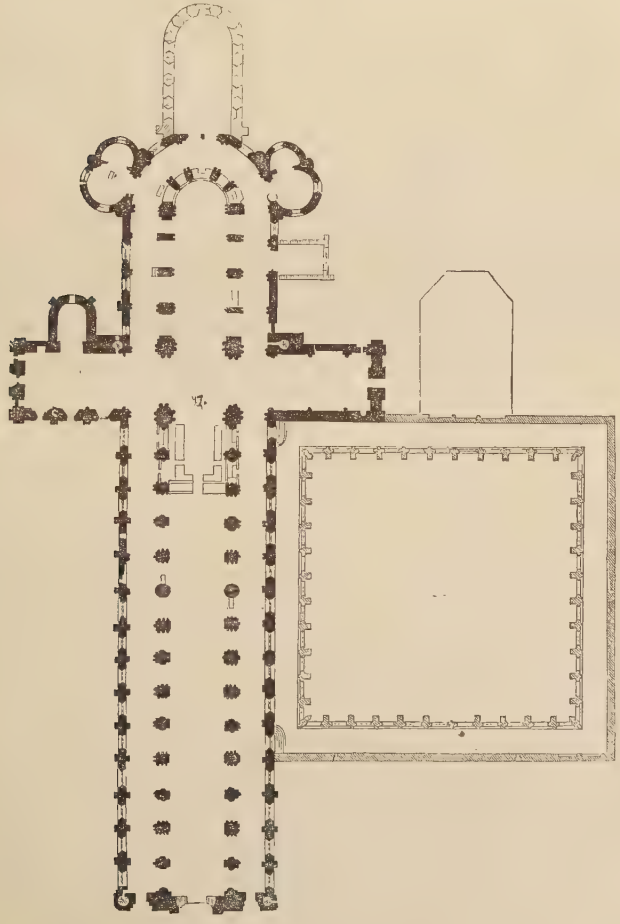
[2] "Qui ecclesiam in orientali parte majoris ecclesiæ eidem pene contiguam in honore Beati Johannis Baptistæ fabricavit; ut et Baptisteria et examinationes Judiciorum, &c.—et Archiepiscoporum corpora in eâ sepelirentur."—'Anglia Sacra,' vol. ii. p. 75.

difficult to prove this, so completely have all the features of the church been altered by subsequent rebuildings.

From what we know of Saxon MSS. and other indications, it would seem that painting was a favourite mode of decoration among the Saxons; and if so, their interiors may have been more successful as works of art than their external architecture would lead us to expect. But as no specimen of Saxon painted mural decoration has come down to our time, it is hardly safe to assume much with regard to this.

Plans of English Cathedral Churches.

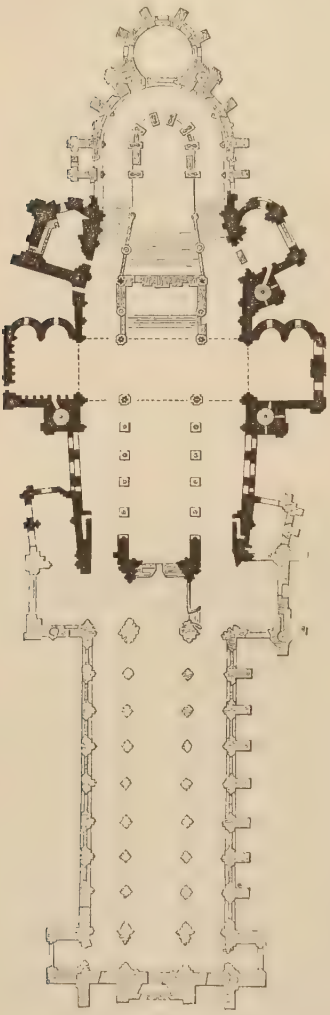
The most remarkable and universal peculiarity in the arrangement



538. Plan of Norwich Cathedral. Scale 100 ft. to 1 in.

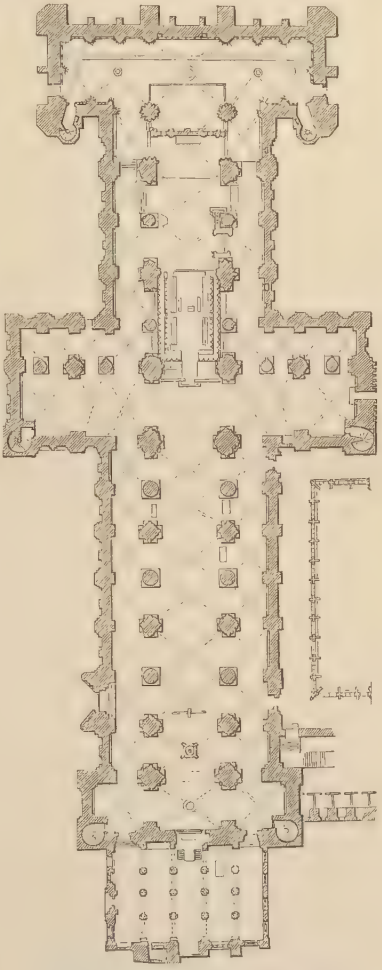
of English churches, when compared with those on the Continent, is their extraordinary length in proportion to their breadth. In this

respect they seem to stand alone when compared with any buildings existing in other parts of the world. The ancients affected a double square; in other words, their temples were generally twice as long as they were broad. In the middle ages, on the Continent, this proportion was generally doubled. Practically the internal width was multiplied by 4 for the length. This at least seems to have been the proportion generally aimed at, though, of course, it was often modified by circumstances. In England the larger churches generally reached the proportion of 6 times their width for their length. Most of our cathedrals have been so altered and modified by subsequent additions that it is difficult now to trace their original arrangements; but Norwich exists in plan almost exactly as originally erected (A.D. 1096–1135), as will be seen from the plan (woodcut No. 538). The nave to the west of the intersection is more than 4 times its width (70 × 295). The rectangular part of the choir is more than a square, and with the apse and its aisle, exclusive of the chapels, makes altogether a length of 410 ft. internally, or nearly 6 squares. At Peterborough and Ely the proportion seems to have been as 5 to 1 to the centre of the apse; but if there was a circumscribing aisle or chapel, the longer proportion would obtain. At Canterbury and Winchester, and generally in the south-eastern cathedrals, as built more immediately under French influence, the original proportion was somewhat shorter; but so impressed were the English architects with the feeling that length was the true mode of giving effect, that eventually the two cathedrals last named surpassed it. Canterbury (woodcut No. 539) attained an internal length of 518 ft., while the width of the nave is only 72, or as 7 to 1. At Winchester (woodcut No. 542) these dimensions are 525 and 82, or something less than 7 to 1, owing to the greater width of the nave.



539. Plan of Canterbury Cathedral. Scale 100 ft. 1 in.

It is extremely difficult to assign a satisfactory reason for this peculiarity of English plans. It arises so suddenly, however, in the English churches of the Norman age that it must have pre-existed in those of the Saxons; though why they should have adopted it is by no means clear. If these churches had wooden roofs, which was almost certainly the case, their naves might easily have been wider, and it can hardly have arisen from any æsthetic motive. As we now judge them, these early naves were badly proportioned for hearing an address from the bishop or prior, and as ill adapted for a multitude to see what was passing at the altar; but for pictorial effect they surpass everything erected on the Continent, unless with greatly increased dimensions of height or width. Whether, therefore, it were hit upon by accident or by design, its beauty was immediately appreciated, and formed the governing principle in the design of all the English cathedrals. It was a discovery which has added more to the sublimity of effect which characterises most of our cathedrals than any other principle introduced during the middle ages.



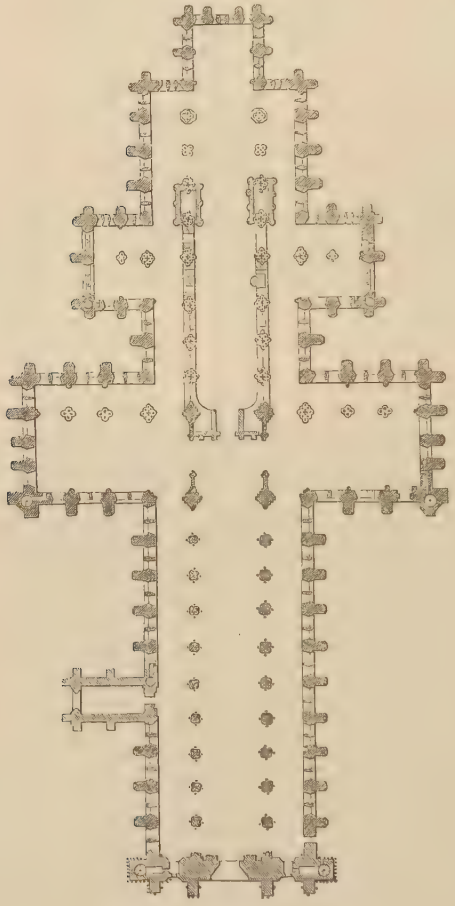
540. Plan of Durham Cathedral. From Billings. Scale 100 ft. to 1 in.

All the cathedrals above enumerated, all indeed which were designed by Norman prelates during the 1st century after the Conquest, were erected on very nearly the same plan as that at Norwich. Durham (1095–1133) was the first to show any marked deviation from the type[1] (woodcut No. 540). The nave and choir became nearly proportioned to one another, and for the first time we see a distinct determination from the first that the building should be vaulted. All this involved an

[1] The internal dimensions of Durham Cathedral are 413·10 feet, exclusive of the Galilee. The nave is 81 feet wide, the choir 77·2. (Billings.)

amount of design and contrivance which entirely emancipated us from the Continental type, and may be considered as laying the foundation of the English style.

In addition to what was doing at Durham there prevailed an extraordinary activity in church-building in the North of England during the whole of the 12th century, owing to the erection of the great abbeys whose gigantic fossils still adorn every main valley in Yorkshire. As this part of the country was more remote from foreign influence than the South, the style developed itself there with a vigour and originality not found elsewhere: but its effect was appreciated, and when Lincoln was rebuilt, about the year 1200, the English style was perfected in all essential parts. This is even more remarkably shown, however, at Salisbury, commenced in 1220 and completed in 1258.



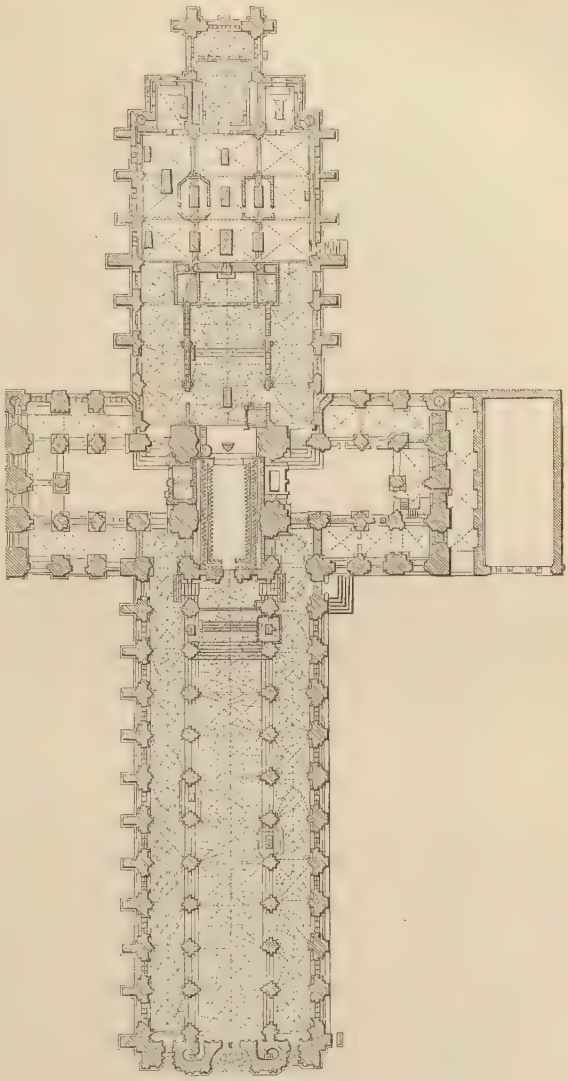
541. Plan of Salisbury Cathedral. Scale 100 ft. to 1 in.

In this church we have a plan not only extremely beautiful but perfectly original. There is scarcely a trace of French or foreign influence; everything is the result of the native elaboration during the previous century and a half. The internal dimensions, according to Britton, are 450 ft. by 78, a little under the English standard, but sufficiently long for effect. The apsidal arrangement, so universal in Norman cathedrals, has disappeared never to return, except in Westminster Abbey (1245–1269), and in some readjustments, as at Tewkesbury; and the square eastern termination may henceforth be considered as established in this country—the early symbol of that independence which eventually led to the Reformation.

Once the Salisbury plan came to be considered the true English

type, the Norman cathedrals were gradually modified to assimilate their arrangements to it. The nave and transept of Winchester were already too extensive to admit of a second transept, but the choir was rebuilt on the new model; and when afterwards the nave was remodelled by William of Wykeham it became one of the most beautiful, as it continued to be the longest of English cathedrals (556 ft. over all).

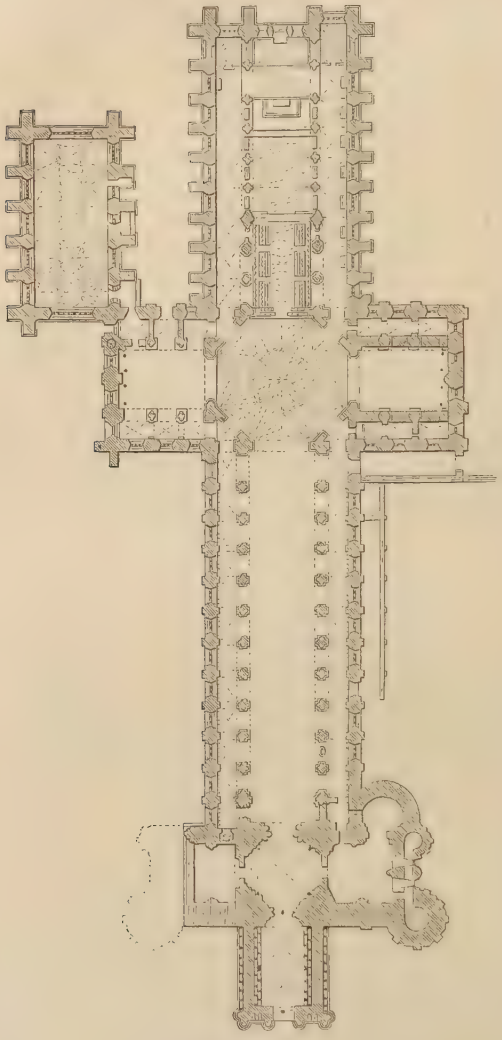
About the same time Ely had a choir and presbytery added to it in lieu of the old Norman choir, which raised it to the very first rank among English churches;[1] and when, in 1322, by a fortunate accident the old Norman tower fell the intersection was rebuilt in a manner that rendered it exceptionably pre-eminent among its rivals. There is perhaps no feature in the whole range of Gothic architecture either here or



542. Plan of Winchester Cathedral. From Britton. Scale 100 ft. to 1 in.

[1] The proper effect of this part of Ely Cathedral has been seriously marred by the erection of the new reredos. In itself a fair specimen of modern Gothic, it is placed so far from the choir as to lose its proper effect. It is painfully dwarfed by the large plain area in front of it. But worse than this, it cuts up and destroys the most beautiful presbytery in England, after the Angel Choir at Lincoln. The architects of Walsingham's time glazed two compartments of the triforium to throw light upon the principal object in the choir, which was intended to stand two bays further forward. It would have been well if the 19th century restorers had taken the hint.

on the Continent more beautiful than the octagon of Ely (woodcut No. 544), as rebuilt by Alan of Walsingham, the sacrist at the time the tower fell. He, and he alone of all northern architects, seems to have conceived the idea of abolishing what was in fact the bathos of the style—the narrow tall opening of the central tower, which, though possessing exaggerated height, gave neither space nor dignity internally to the central feature of the design. On the other hand, the necessity of stronger supports to carry the tower frequently contracted still more the one spot where, according to architectural propriety, an extended area was of vital importance to the due harmony of the design.



543. Plan of Ely Cathedral. From Dugdale. Scale 100 ft. to 1 in.

In the present instance the architect took for the base of his design the whole width of the nave and aisles, constructing in it an octagon, the sides of which are respectively 25 and 30 feet, and the diameter 65 in one direction, east and west, and 70 ft. transversely. By this arrangement a central area was obtained more than three times the extent of that originally existing, and, more than this, propriety and poetry of design which are not to be found elsewhere. All this too was carried out with the exquisite details of the best age of English Gothic, and the effect in consequence is surpassingly beautiful. Unfortunately, either for want of funds, or of confidence in their ability to execute it, the vault, like that of York, is only in wood, though, from the immense strength of the supports, and

their arrangement, it is evident that a stone vault was originally intended. The very careless—one might almost say ugly—way in which the lantern was finished externally, shews unmistakably that it was

544. Octagon at Ely Cathedral. From Murray's 'Cathedral Handbook.'

not intended to last long in its present form. Be that as it may, this octagon is in reality the only true Gothic dome in existence; and the wonder is, that being once suggested, any cathedral was ever afterwards erected without it. Its dimensions ought not to have alarmed

those who had access to the domes of the Byzantines or Italians. Its beauty ought to have struck them as it does us. Perhaps the true explanation lies in the fact that it was invented late in the style. New cathedrals or great churches were very rarely commenced after the death of Edward the Third; and when they were, it was by masons, not by educated gentlemen, that they were designed.

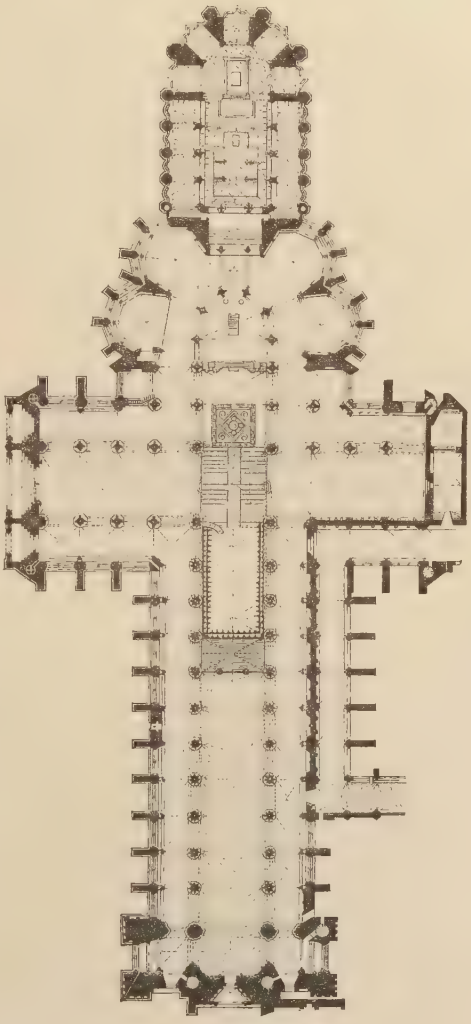
After this, very little novelty was introduced into the design of English cathedrals. York, however, was almost entirely rebuilt in the form towards which the architects were tending during the whole of the middle ages, and it may consequently be considered as the type at which they were aiming, though hardly the one to which we can give the most unqualified praise. The nave was erected between the years 1291 and 1331, the choir between 1361 and 1405; the length internally is 486 ft.; the width of the choir, 100 ft.; of the nave, 106 ft.; both these last were, unfortunately, dimensions which the architects did not feel themselves equal to grappling with, so that the roof, like the lantern at Ely, was constructed of wood, in imitation of a stone vault, and remains so to this day.

Owing to the great width attempted for the nave, York has not the usual proportion of height affected by other English cathedrals, and loses in effect accordingly. Its great peculiarity is the simplicity and squareness of its plan, so unlike what is found anywhere abroad. The church is divided into two equal parts; one devoted to the laity, one to the clergy. There are no apsidal or other chapels. Three altars stood against the eastern wall, and it may be 3 or 4 in the transept. Beyond this nothing. There is none of that wealth of private chapels which distinguishes Continental cathedrals and churches, or even Canterbury, the most foreign of our English examples. The worship even at that early period was designed to be massive and congregational, not frittered away in private devotion or scattered services, and marks a departure from Continental practices well worthy the attention of those who desire to trace the gradual development of the feelings of a people as expressed in their architecture, and the architecture only.

The abbey church at Westminster is exceptional among English examples, and is certainly, in so far at least as the east end is concerned, an adaptation of a French design. The nave, however, is essentially English in plan and detail, and one of the most beautiful examples of its class to be found anywhere. So too are the widespreading transepts; but eastward of these the form is decidedly that of a French cathedral. Henry VII.'s Chapel now occupies the space formerly occupied by the Lady Chapel; but before it was pulled down the circlet of apsidal chapels was as completely and as essentially French as any to be found in the country where that feature was invented. In the choir, however, the architects betrayed their want of familiarity with the form of termination they had selected. The angle at which the

three bays of the apse meet is far from pleasing, and there is a want of preparation for the transition, which tends to detract from the beauty of what would otherwise be a very charming design.

As the choir was sepulchral, to accommodate the shrine of the Confessor, the design was appropriate, and its introduction in this instance cannot be regretted; but, on the whole, there is nothing in the church of Westminster to make us wish that this feature had become more common on this side of the Channel.



515. Plan of Westminster Abbey. Scale 100 ft. to 1 in.

Notwithstanding the beauty of the result, it may still be considered as open to discussion whether the English architects were always correct in adhering to length in preference to height as the modulus of their designs. When, however, we reflect how immensely the difficulties of constructing a stone roof are increased by every addition to the width or height of the vault, we cannot but acknowledge their wisdom in stopping at that point where sufficient spaciousness was attained, without increasing constructive difficulties. Nowhere in English cathedrals are we offended by mechanical *tours de force*. Everywhere there is sufficient solidity for security, and a consequent feeling of repose most conducive to true architectural effect.

It may also be remarked that the strain of turning the head upwards detracts considerably from the pleasure of contemplating tall interiors, while the eye likes to dwell on long-drawn vistas which can

be explored in a natural position. But, perhaps, the greatest advantage of moderate dimensions in section is that they do not dwarf either the worshippers or the furniture of the church. Everything in an English cathedral is in just proportion, which is certainly not the case in many Continental examples; and there is a variety and a play of light and shade in the long aisles of our churches which is wholly wanting in the one great hall of French and German examples.

Another point on which a difference of opinion may fairly exist is, whether the square termination of our cathedrals is or is not more beautiful than the apsidal arrangements so universal abroad.

When, as at Salisbury, or Wells, or Exeter, there is a screen of open arches below the east window, it may safely be asserted that a polygonal termination would have been more pleasing; but when, as at York, or Gloucester, or Carlisle, the whole eastern wall is a screen of painted glass, divided by mullions and tracery of most exquisite design, judgment will probably go the other way. Such a window as that at York, 33 ft. in width by 80 ft. in height, is a marvellous creation, which few architectural developments in any part of the world can rival or even approach. On the whole, perhaps, the true answer to the question is that, where a number of smaller chapels are wanted, the chevet form is the best and most artistic termination for a church; where these are not required, the square form is the most beautiful, because it is the most appropriate, and, like everything appropriate, capable of being made beautiful in the hands of a true artist.

VAULTS.

Whatever opinion may be formed as to the proportions of English cathedrals, or the arrangement of their plans, there can be no dispute as to the superiority of their vaults over those of all their Continental rivals. The reasons for this are various, and not very recondite. The most obvious is the facility of construction which arose from the moderation just pointed out in the section of our churches.

The English always worked within their strength, instead of going to the very verge of it, like the French; and they thus obtained the power of subordinating constructive necessities to architectural beauty. Thus the English architects never attempted a vault of any magnitude till they were sufficiently skilled in construction to do it with facility. In a former chapter it has been pointed out how various and painful were the steps by which the French arrived at their system of vaulting —first by pointed tunnel-vaults and a system of domes, then by a combination of quadripartite and hexapartite intersecting vaults, of every conceivable form and variety, but always with a tendency to domes, and to the union of all pre-existing systems. This experimentalizing, added to the great height of their roofs and the slenderness of their

clerestories, never left them sufficiently free to admit of their studying æsthetic effects in this part of the construction.

A second reason was, that, for 150 years after the Conquest, our architects were content with wooden roofs for their naves. One of the earliest vaults we possess is that at Durham, commenced by Prior Melsonby, 1233. Long before that time the French architects had been trying all those expedients, detailed at pp. 466, 467 of Vol. I., and had thus succeeded in vaulting their central aisles a century before we attempted it. In doing so, however, their eyes got accustomed to mechanical deformities which we never tolerated, and they were afterwards quite satisfied if the vault would stand, without caring much whether its form were beautiful or not.

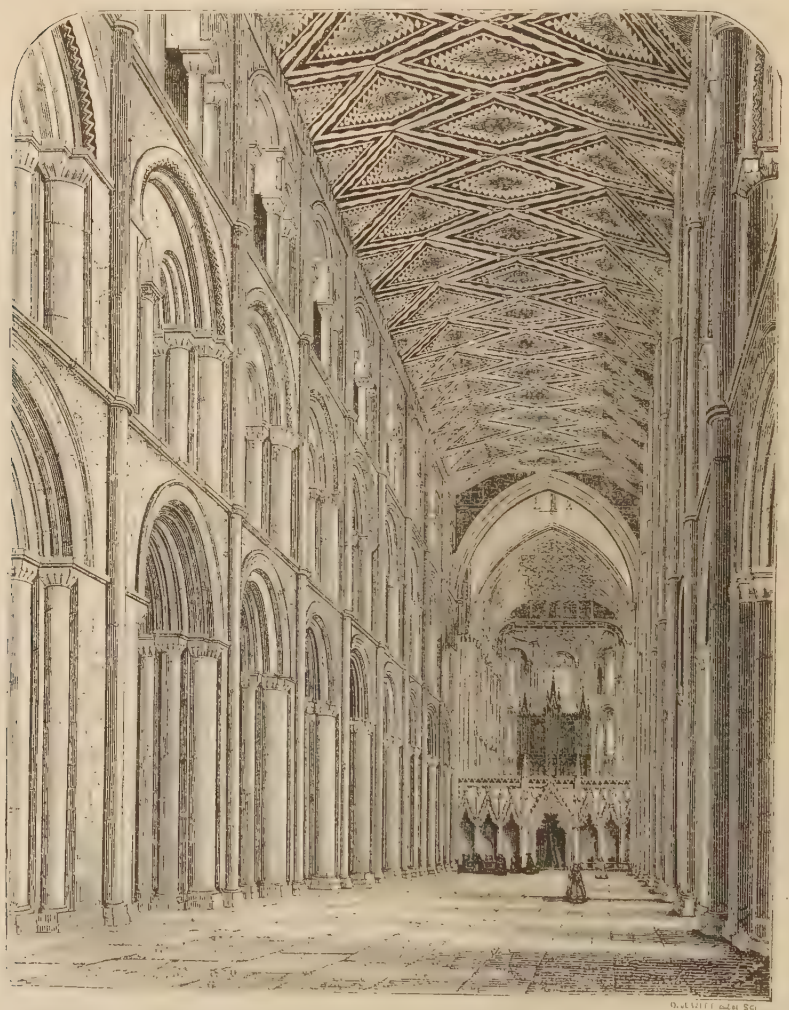
A third cause of the perfection of English vaults arose from the constant use of ornamental wooden roofs throughout the middle ages. The typical example of this form now remaining to us is that of Westminster Hall. But St. Stephen's Royal Chapel had one of the same class, and there is reason to believe that they were much more common than is usually supposed.[1] All these were elaborately framed and richly carved and ornamented, often more beautiful than a stone vault, and quite as costly; and it seems impossible that a people who were familiar with this exquisite mode of roofing could be content with the lean twisted vaults of the Continental architects. The English alone succeeded in constructing ornamental wooden roofs, and, as a corollary, alone appreciated the value of a vault constructed on truly artistic principles and richly ornamented. Their eyes being accustomed to the depth and boldness of timber construction could never tolerate the thin weak lines of the French ogive, just sufficient for strength, but sadly deficient in expression and in play of light and shade.

Although it is, perhaps, safe to assert that there is not, and never was, a Saxon vault in existence; and that, during the purely Norman period, though the side-aisles of great churches were generally vaulted, the central aisle was always ceiled with wood; yet, from a study of their plans, we are led to conclude that their architects always intended that they should, or at least might, be ornamented with stone roofs.

In the first place, the area of their piers is enormous, and such as could never have been intended to support wooden roofs. Even making every allowance for the badness of the masonry, one-tenth of the sectional area would have sufficed, and not more was employed contemporaneously in Germany when it was intended to employ wooden roofs. There is also generally some variation in the design of the alternate piers, as if a hexapartite arrangement were contemplated. But the evidence is not conclusive, for the vaulting shafts are usually

[1] The roofs here alluded to must not be confounded with the barn-like roofs of remote village churches which modern architects are so fond of copying, but such roofs as that of St. Stephen's Chapel, and many of those of the Lancastrian era.

similar, and in all instances run from the ground through the clerestory, and terminate with the copings of the wall, so that, in their present form, they could only be meant to support the main timber of the roof. It may be that it was intended to cut them away down to the string-course of the clerestory, as was actually done at Norwich in



546. Nave of Peterborough Cathedral.[1] C. Hb.

1446, when the nave was vaulted; but at present we must be satisfied with the evidence that the architects were content with such roofs as

[1] This, and a considerable number of the woodcuts in this chapter, are borrowed from the plates of the beautiful series of 'Handbooks of the English Cathedrals,' in course of publication by Mr. Murray. In order to prevent needless repetition, they are marked C. Hb.

that of Peterborough (woodcut No. 546), which is the oldest and finest we possess. It is very beautiful, but not the class of roof these massive piers were designed to support.

547. Nave of Lincoln Cathedral. C. Hb.

Though we may hesitate with regard to the intention of the builders of Norwich, Ely, or Peterborough, there can be no doubt, from the alternate piers and pillars, that when Durham was commenced it was

intended that the nave should be covered by a great hexapartite vault. Before, however, the intention could be carried out, the art of vaulting had been so far perfected that that very clumsy expedient was

548. Nave of Lichfield Cathedral. C. Hb.

abandoned; and, by the introduction of a bracket in the nave, and afterwards of a vaulting shaft in the choir, a vault of the usual quadrilateral form was successfully carried out between the years 1233 and 1284.

It is probably to St. Hugh of Lincoln that we owe the first perfect vault in England. Coming from Burgundy he must have been familiar with the great vaults which had been constructed in his country long

549. Choir of Gloucester Cathedral. C. Hb.

before the year 1200, when he encouraged his new followers to undertake one not necessarily in the Burgundian style, but in that form with which they were conversant from their practice in erecting smaller

side-vaults. He built and roofed the choir of Lincoln, immediately after which (1209–1235) the nave (woodcut No. 547) was undertaken by Hugh of Wells, and its roof may be taken as a type of the first perfected form of English vaulting. It is very simple and beautiful; but it cannot be denied—and this is felt still more at Exeter—that the great inverted pyramidal blocks of the roof are too heavy for the light piers and pierced walls which support them. Another defect is, that the lines of the clerestory windows do not accord with the lines of the "severeys" of the vault. This defect was remedied at Lichfield, but nowhere else, until the invention of the four-centred arch and of fan-tracery. At Lichfield (woodcut No. 548) the triangular form of the clerestory windows afforded a perfect solution of the difficulty, and gave a stability and propriety to the whole arrangement that never was surpassed, and never might have been relinquished had not their fatal fondness for painted glass forced the architects in this, as in other instances, to forego constructive propriety for indulgence in that fascinating mode of decoration.

Beautiful as these simple early roofs were felt to be, the great mass of the "severeys," or inverted pyramids, formed a very obvious defect. It was, however, easily remedied when once perceived. The earliest example of its successful removal is probably in the roof of the choir at Gloucester (1337–1377, woodcut No. 551). In this instance the roof is almost a tunnel-vault with the window spaces cutting into it, so as to leave nearly one-third of the space unbroken; and, as the whole is covered with rich and appropriate tracery, the effect is highly pleasing. The same principle was afterwards carried to its utmost perfection in the roof of St. George's Chapel at Windsor. In that case a flat band was introduced as a separate constructive compartment in the centre, supported by the severeys, and as the roof is ornamented with ribbings of the most exquisite design, it forms perhaps the most beautiful vault ever designed by a Gothic architect.

Fig. 1.

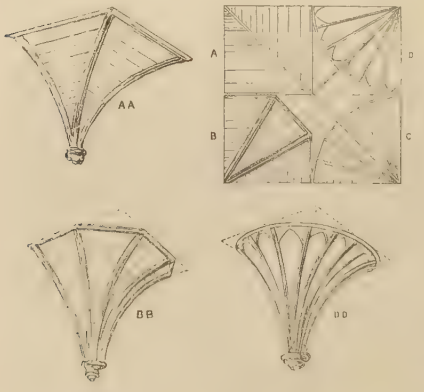
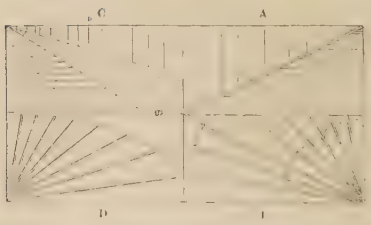


Fig. 2.



550. Diagrams of Vaulting.

The great invention of the English architects in vaulting is the form usually known as fan-tracery. It is so beautiful in itself, and so exclusively English, that it may, perhaps, be worth while to retrace the steps by which it was arrived at. Though this may lead to a little repetition, the stone vault is so essentially the governing modulus of the style that its principles cannot be made too clear.

The original form of the intersecting vault is that of two halves of a hollow-sided square pyramid placed opposite one another in an inverted position.[1] One half of such a vault is shown at A and A A (woodcut No. 550, fig. 1). The English seem early to have tired of the endless repetition of these forms, and, after trying every mode of concealing their sameness by covering them with tracery, they hit on the happy expedient of cutting off their angles, as shown at B and BB. This left a flat square space in the centre, which would have been awkward in the central vault, though in a side-aisle it was easily got over, and its flatness concealed by ornament. Arrived at this stage, it was easy to see that by again dividing each face into two, as at C, fig. 1, the principal original lines were restored, and the central space could be subdivided by constructive lines to any extent required. By this

551. Roof of Cloister, Gloucester.

[1] This has already been explained in the chapters on French architecture in Vol. I., especially at pages 467 and 520.

process the square pyramid had become a polygonal cone of 24 sides, which was practically so near a circle that it was impossible to resist the suggestion of making it one, which was accordingly done, as shown at D and D D, fig. 1.

So far all was easy, but the fact of the flat central space resting on the four cones was still felt to be a defect, as indeed is apparent in such a vault as that of the cloisters at Gloucester (woodcut No. 551), where a segment is used nearly equal to an equilateral spherical triangle. In this case they did not dare to employ a constructive decoration, but covered the space with circles so as to confuse and deceive the eye. At Windsor (woodcut No. 552) the defect was obviated by using a low four-centred arch invented for the purpose, so that the outer tangent of the conoid was nearly flat, and the principal transverse rib was carried to the centre without being broken,—as the others might have been, had that mode of decoration been deemed expedient. This may be considered the perfection of this kind of vaulting, and is perhaps the most beautiful method ever invented. At Westminster (as shown in woodcut No. 553) the difficulty was got over by reversing the curve by the introduction of pendants. This was a clever expedient, and produced a startling effect, but is so evidently a *tour de force* that the result is never quite satisfactory; though on a small scale admissible.

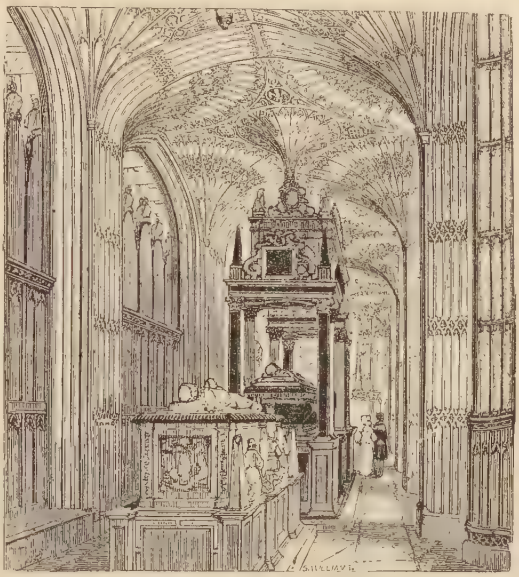
552. Vault of Aisle at St. George's Chapel, Windsor.

These devices all answered perfectly so long as the space to be roofed was square, or nearly so; but when this mode of vaulting came to be applied to the bays of the central nave, which were twice as long in one direction as in the other, the difficulties seemed insuperable. By cutting off the angle as in the former instance (as at B, fig. 2, woodcut No. 550), you may get either a small diamond shaped space in the centre or a square, but in both cases the pyramid becomes very awkward; and by carrying on the system as before, you never arrive at a circle, but at an elliptical section, as shown at D, fig. 2 (woodcut No. 550).

The builders of King's College Chapel strove to obviate the difficulty by continuing the conoid to the centre, and then cutting off what was redundant at the sides, as in E, fig. 2.

The richness of the ornaments, and the loftiness and elegance of the whole, lead us to overlook these defects at Cambridge, but nothing can be less constructive or less pleasing than the abruptness of the

intersections so obtained. In the central aisle of Henry VII.'s Chapel it was avoided by a bold series of pendants supported by internal flying buttresses, producing a surprising degree of complexity, and such an exhibition of mechanical dexterity as never fails to astonish, and generally to please; though it must be confessed that it is at best a mere piece of ingenuity very unworthy of English art. By far the most satisfactory of these roofs is that at Windsor, where a broad flat band is introduced in the centre of the roof, throughout the whole length of the chapel. This is ornamented by panelling of the most exquisite design, and relieved by pendants of slight projection, the whole being in such good taste as to make it one of the richest and probably the most beautiful vault ever constructed. It has not the loftiness of that at Cambridge, being only 52 ft. high, instead of 78, nor is it of the same extent, and consequently it does not so immediately strike observers, but on examination it is far more satisfactory.



553. Aisle in Henry VII.'s Chapel, Westminster.

The truth of the matter seems to be that, after all their experience, the architects had got back to precisely the point from which they started, namely, the necessity of a square space for the erection of a satisfactory intersecting vault. The Romans saw this, and never swerved from it. The side-aisles of all cathedrals and all cloisters adhered to it throughout; and, when it was departed from in the wider central aisles, it always led to an awkwardness that was hardly ever successfully conquered. In some instances, as in the retro-choir at Peterborough (1438–1528), two windows are boldly but awkwardly included in one bay (woodcut No. 554), and the compartments are so nearly square that the difficulty is not very apparent, but it is sufficient to injure considerably the effect of what would otherwise be a very beautiful roof.

In Henry VII.'s Chapel the difficulty was palliated, not conquered, by thrusting forward the great pendants of the roof and treating them as essential parts of the construction, and as if they were supported by

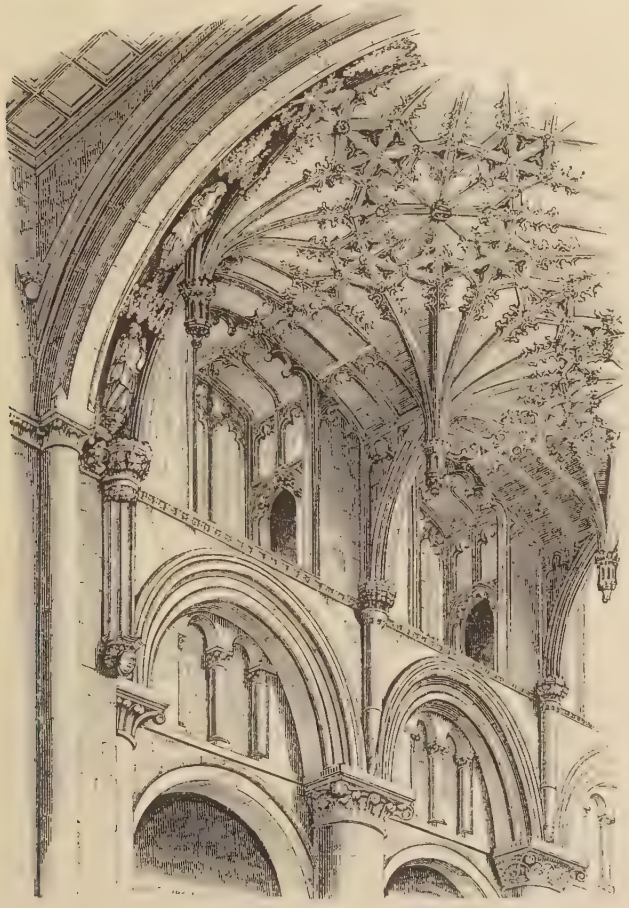
pillars from the floor instead of by brackets from the wall. By this means the roof was divided into rectangles more nearly approaching squares than was otherwise attainable; but it is most false in principle, and, in spite of all its beauty of detail, cannot be considered successful.

554. Retro-choir, Peterborough Cathedral C. Hb.

Strange as it may appear from its date, the most satisfactory roof of this class is that erected by Cardinal Wolsey in the beginning of the 16th century over the choir of Oxford Cathedral. In this instance the pendants are thrust so far forward and made so important that the central part of the roof is practically quadripartite. The remaining difficulty was obviated by abandoning the circular horizontal outline of

true fan-tracery, and adopting a polygonal form instead. As the whole is done in a constructive manner and with appropriate detail, this roof—except in size—is one of the best and most remarkable ever executed.

The true solution of the difficulty, in so far as the roof was concerned, would have been to include two bays of the side-aisles in one of the centre; but this would have necessitated a rearrangement of both plan and exterior to an extent the architects were not then prepared to



555. Choir Arches of Oxford Cathedral. C. Hb.

tolerate, and it never was attempted, except perhaps in the instance of the retro-choir at Peterborough (woodcut No. 554). Had it been done in King's College Chapel at Cambridge (woodcut No. 580), it would have been in every respect an immense improvement. At present the length of King's Chapel is too great for its other dimensions. Had there been six bays instead of twelve, its apparent length would have

been considerably diminished, and the variety introduced by this change would have relieved its monotony without detracting from any of the excellent points of design it now possesses.

The English architects never attempted such vaults as those of Toulouse and Alby, 63 and 58 ft. respectively, still less such as that of Gerona in Spain, which is 72 ft. clear width.[1] With our present mechanical knowledge, we could probably construct wider vaults still. Even the mediæval architects in England might have done more in this direction than they actually accomplished had they tried. On the whole, however, it seems that they exercised a wise discretion in limiting themselves to moderate dimensions. More poetry of design and greater apparent size is attainable by the introduction of pillars on the floor, and with far less mechanical effort. Unless everything is increased in even a greater ratio, the dwarfing effect of a great vault never fails to make itself painfully apparent. We may regret that they did not vary their vaults by such an expedient as the lantern at Ely, but hardly that they confined them to the dimensions they generally adopted.

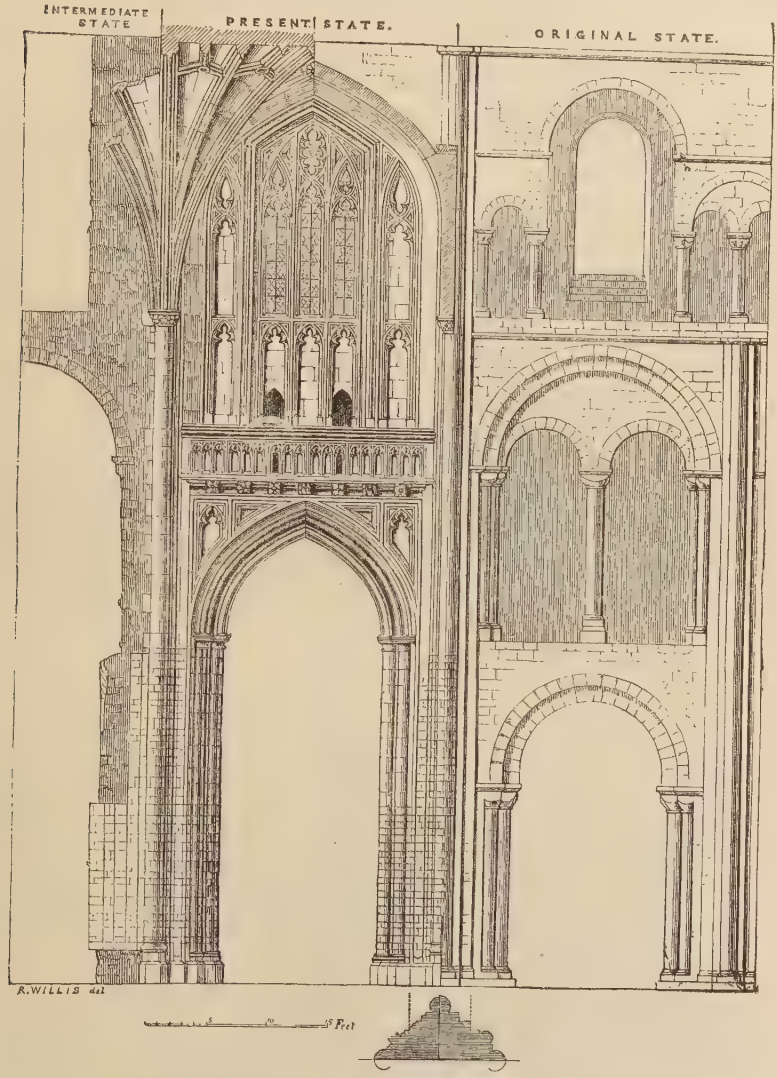
PIER ARCHES.

Although the principles adopted by the English architects did not materially differ from those of their Continental confrères with regard to the arrangement of pier arches and the proportions of triforia and clerestories, still their practice was generally so sound and the results so satisfactory, that this seems the best place to point out what the mediæval architects aimed at in the arrangement of their wall surfaces.

In the Norman cathedrals the general scheme seems to have been to divide the height into three equal parts, and to allot one to the pier arch, another to the triforium or great gallery, and the third to the clerestory. In all the examples we now have, the upper is the smallest division; but I cannot help fancying that some arrangement of the timbers of the roof gave the additional height required. It is generally supposed that the roof at Peterborough (woodcut No. 546) was originally flat. This, however, is by no means clear, nor that it started so low; but, be that as it may, the woodcut (No. 556) will explain the usual arrangement, as well as the changes afterwards introduced. At Winchester the two lower divisions are practically equal, the upper somewhat less, and the alternate arrangement of the piers hints at a hexapartite vault, if such should ever come to be executed. When William of Wykeham undertook to remodel the style of the nave, he first threw the two lower compartments into one, as shown on

[1] These dimensions are taken from Street's 'Gothic Architecture in Spain.' As he measured them himself, they are probably more correct than those quoted in my first volume of this work, which are taken from plans.

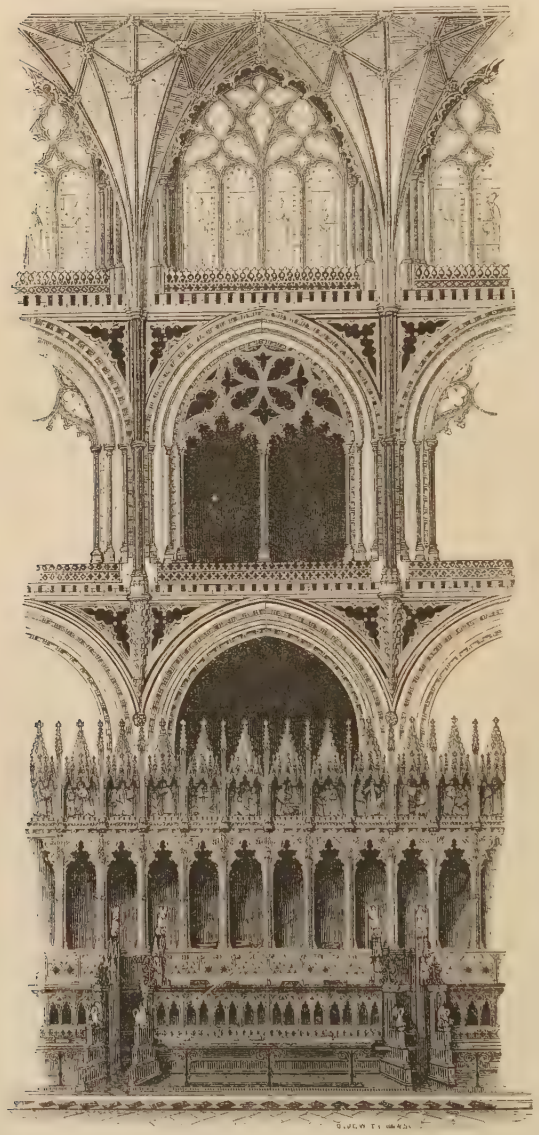
the left-hand side of the cut. He then divided the whole height, as nearly as the masonry would allow him, into two equal parts, allotting one to the pier arches, and apportioning the upper as nearly as he could by giving two-thirds to the clerestory and one-third to the triforium.



556. Transformation of the Nave, Winchester Cathedral. C. Hb.

With pointed arches this was the most pleasing and satisfactory arrangement adopted during the middle ages; but when something very like it was attempted in the nave of Gloucester (woodcut No. 549) with round arches, the effect was most unpleasing. Before the architects,

however, settled down to this proportion, a variety of experiments was tried. One of the most successful was the nave of Lichfield Cathedral (woodcut No. 548). Here the whole height is divided equally, one half is given to the arches, and the other divided equally between the clerestory and triforium. If the latter had been glazed externally, as was the case at Westminster Abbey and elsewhere, and made to look like part of the church, the whole might be considered as satisfactory. As it is, the area of the clerestory is so much less than that of the triforium, that the proportion is not quite agreeable, though the solidity and repose which this arrangement gives to the roof is above all praise.



557. Choir of Ely Cathedral. C. Hb.

All these objections were obviated in the three bays of the choir at Ely, which were rebuilt by Walsingham at the same time as the octagon. Here the triforium and clerestory are equal; but the upper window is so spread out, and so much is made of it, that it looks equal to the compartment below. The pier arch below is also subdued to less than half the whole height, so as to give value to the upper division. These

proportions are derived from the very beautiful Early English Presbytery beyond; but they are here used with such exquisite taste and such singular beauty of detail that there is perhaps no single portion of any Gothic building in the world which can vie with this part of the choir of Ely for poetry of design or beauty of detail.

The perfection of proportion, as of many other things, was reached in Westminster Abbey (1245–1269). Here the whole height is divided into two equal parts, and the upper subdivided into three, of which one is allotted to the triforium, and two to the clerestory. It is true this involves the necessity of springing the vault from a point half way down the clerestory windows, and thus the lines of the severeys do not quite accord

558. Two Bays of the Nave of Westminster Abbey.

559. One Bay of Cathedral at Exeter.

with those of the lights; but at best it is a choice of difficulties, and the happy medium seems to have been reached here more successfully than elsewhere. The proportion of the width of a bay to its height is here also most pleasing; it is as 1 to $5\frac{1}{2}$.[1] Sometimes, as at Exeter, it sinks

[1] In woodcut No. 558 the right-hand bay is that of the nave generally, the left-hand bay is adapted to the greater width of the aisle of the transept, and is less pleasingly proportioned in consequence. Woodcuts Nos. 558 and 559 are drawn to the scale of 25 ft. to 1 in., or double that usually employed for elevations in this work.

as low as 1 in 3, but the whole effect of the building is very much destroyed by the change.

Shortly after this, as in the choir at Lichfield (1250–1325) or at Exeter (1308–1369), the mania for the display of painted glass upset all these arrangements—generally at the expense of the triforium. This feature was never entirely omitted: nor was it ever glazed internally, as was frequently the case on the Continent; but it was reduced to the most insignificant proportions—sometimes not pierced—and, with the wider spacing just alluded to, deprived the English side screen of much of that vigour and beauty which characterised its earlier examples.

Window Tracery.

The date of the introduction of the pointed arch in England—for it may be considered as established that it was *introduced*—is a question which has been much discussed, but is by no means settled. The general impression is that it was at the rebuilding of the cathedral of Canterbury after the fire of 1174 that the style was first fairly tried.

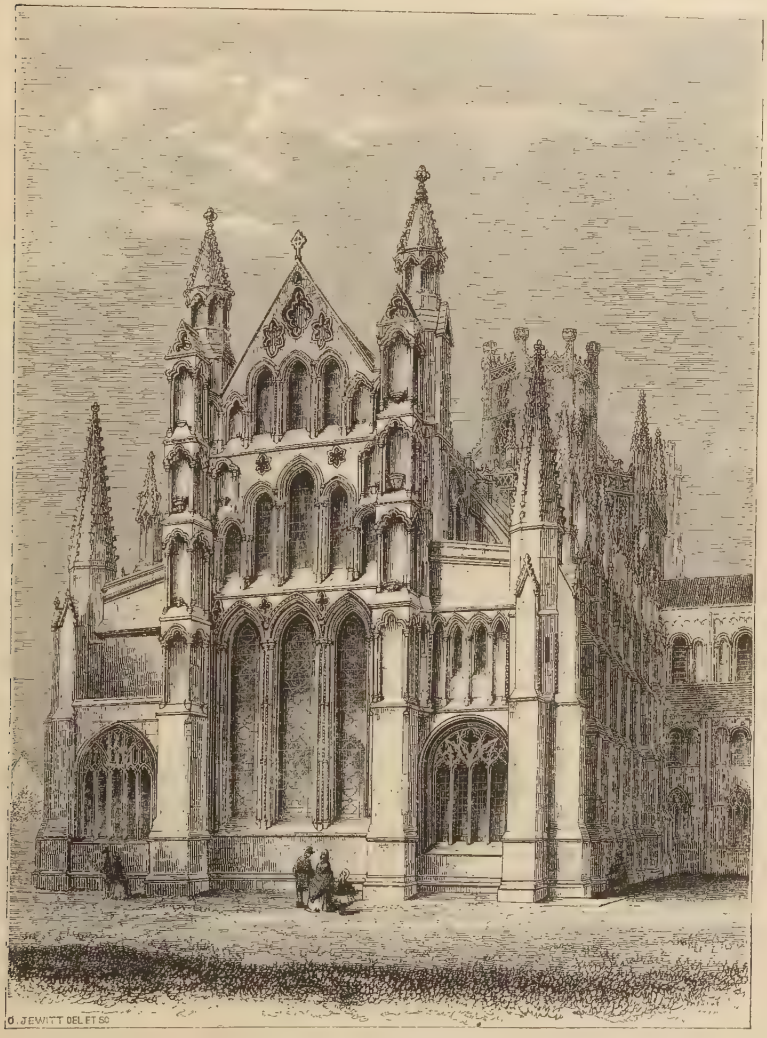
560. Five Sisters, York. From Britton.

The architect who superintended that work for the first five years was William of Sens; and the details and all the arrangements are so essentially French, and so different from anything else of the same age in England, that his influence on the style of the building can hardly be doubted. Of course it is not meant to assert that no earlier specimens exist; indeed, we can scarcely suppose that they did not, when we recollect that the *pointed arch* was used currently in France for more than a century before this time, and that the *pointed style* was inaugurated at St. Denis at least thirty years before. Still this is probably the first instance of the style being carried out in anything like completeness, not only in the pier arches and openings, but in the vaults also, which is far more characteristic.

Even after this date the struggle was long, and the innovation most unwillingly received by the English, so that even down to the year 1200 the round arch was currently employed, in conjunction with

the pointed, to which it at last gave way, and was then for three centuries banished entirely from English architecture.

Be this as it may, in their treatment of tracery, which followed immediately on the introduction of the pointed arch, the English architects



561. Ely Cathedral, East End. C. IIb.

showed considerable originality in design, though inspired by the same sobriety which characterises all their works. It cannot be said that they invented the lancet form of window, numberless examples of small windows with pointed heads existing on the Continent, but they did invent what may be called the lancet style of fenestration. Nowhere

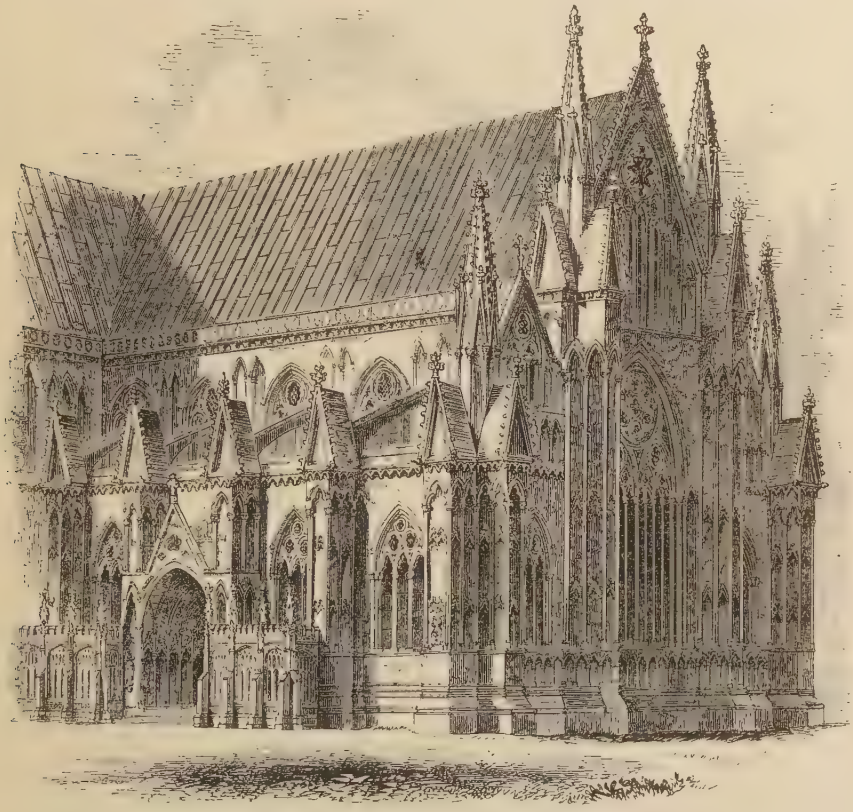
on the Continent are such combinations to be found as the Five Sisters at York (woodcut No. 560), or the east end of Ely (woodcut No. 561), or such a group as that which terminates the east end of Hereford (woodcut No. 562). Tracery it can hardly be called, but it is as essentially one design as any of the great east windows that afterwards came into fashion; and until painted glass became all-important, such an arrangement was constructively better than a screen of mullions, and as used in this country is capable of very beautiful combinations.

562 Lancet Window, Hereford Cathedral. C. Hb.

So, at least, the English architects of the 13th century seem to have thought, for they continued to practise their lancet style, as in the much-quoted example of Salisbury Cathedral, long after the French had perfected the geometric forms; which may be seen from the contemporary cathedral in Amiens. In France, as was pointed out in a previous chapter (vol. i. p. 514 et seq.), we can trace every step by which the geometric forms were invented. In England this cannot be done, and

when we do find a rudimentary combination of two lancets with a circle, it is more frequently a harking back to previous forms than stepping forwards toward a new invention.

When, however, painted glass became an indispensable part of church decoration, it was impossible to resist the influence of the French invention. Like many other Continental forms it seems first to have been systematically employed at Westminster, when the choir was rebuilt by Henry III., A.D. 1245–69, but even then it was used timidly



563. East End of Lincoln Cathedral. From Wild's 'Lincoln.'

and unscientifically as compared with the Sainte Chapelle at Paris, which was commenced 1244, and completed long before the English choir. Once, however, it was fairly introduced, the English architects employed it with great success. It is seen in perfection in the Angel Choir at Lincoln (1270–1282), in the nave of York (1291–1330), or better, in such abbeys as Tintern or Gainsborough. In the chapter-house at York (woodcut No. 564) the style had already begun to deviate from the French pattern, and before the end of the 13th century the English

had so thoroughly assimilated it that hardly a trace of its original form was left. The chapel at Merton College, Oxford, is perhaps the most beautiful example remaining of that exquisite form of English tracery, but St. Stephen's Chapel, Westminster, was the typical example; and specimens of it are found in all our cathedrals. One at St. Anselm's

564. Window in Chapter-house at York.

English Geometric Tracery.

Chapel at Canterbury (woodcut No. 565) is perhaps as characteristic as any. When tracery had reached this stage, it seemed capable of any amount of development, and was applicable to any form of opening. All the difficulties of fitting circles into spherical triangles which had

565. Window in St. Anselm's Chapel, Canterbury.

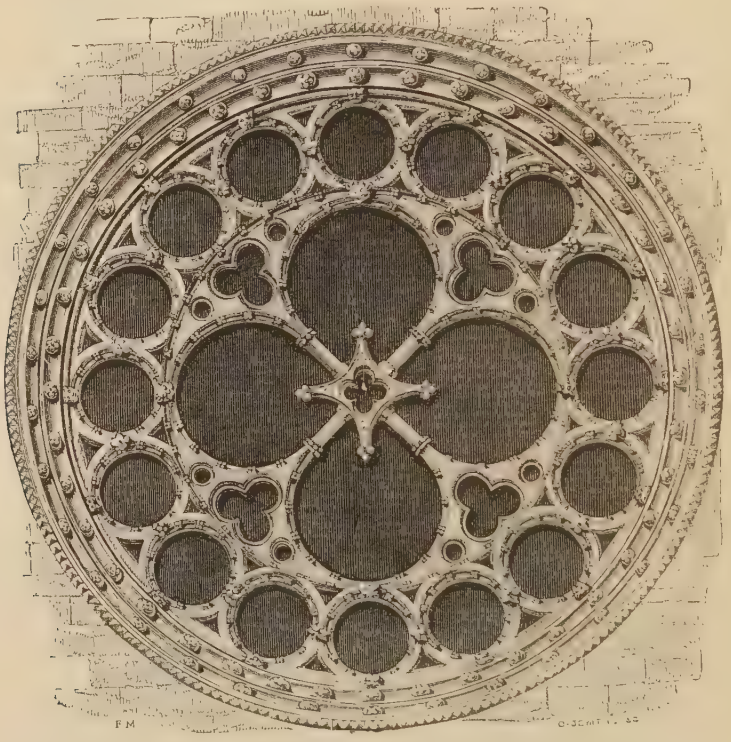
so puzzled the early builders were conquered,[1] and the range of design seemed unlimited. But during the Edwardian period there prevailed a restless desire for new inventions, and an amount of intellectual activity applied to architecture which nothing could resist; so that these beautiful geometric forms in their turn were forced to give way after being employed for little more than half a century, and were superseded by the fashion of flowing tracery, which lasted, however, for even a shorter period than the style which preceded it.

566. East Window, Carlisle Cathedral. From a drawing by R. W. Billings.

567. South Transept Window, Lincoln Cathedral. C. Hb.

[1] It is not necessary to repeat here what was said on the subject in speaking of French tracery, vol. i. p. 515, to which the reader is referred.

This time the invention seems to have been English; for though we cannot feel quite certain when the first specimen of flowing tracery was introduced in France, the Flamboyant style was adopted by the French only after the English wars, whereas the Perpendicular style had superseded this and all other Decorated forms in England before the death of Edward III.



563. North Transept Window, Lincoln Cathedral. C. IIb.

During the time that flowing forms were used in England they gave rise to some of the most beautiful creations in window tracery that are anywhere to be found. The East window at Carlisle (woodcut No. 566) is one of the finest examples, and illustrates the peculiarity of the style as adopted in this country. Though the forms are flowing, and consequently, as lithic forms, weak, the parts are so exquisitely balanced by the stronger ribs introduced and by the arrangement of the whole, that, so far from any weakness being felt, the whole is quite as stable as the purposes to which it is applied would seem to require. Another equally constructive and equally beautiful example is the south transept window at Lincoln (woodcut No. 567), where the segmental lines introduced give the strength required. Though almost all its lines are flowing, it looks stronger and more constructively

correct than the North transept window (woodcut No. 568), which is wholly made up of circular forms, and is in itself one of the best examples of the earlier form of English geometric tracery. Circular windows were not, however, the forte of English architects; they very rarely used them in their West fronts, not always in their transepts, and generally indeed may be said to have preferred the ordinary Pointed forms, in which, as in most matters, they probably exercised a wise discretion.

It may not be quite clear whether William of Wykeham (1366–1404) invented perpendicular tracery, but certain it is that the admiration excited by his works in this style at Winchester, Oxford, and elsewhere, gave a death-blow to the Decorated forms previously in fashion. Although every lover of true art must regret the change, there was a great deal to be said in favour of the new style. It was pre-eminently constructive and reasonable. Nothing in a masonic point of view could be better than the straight lines running through from bottom to top of the window, strengthened by transoms when requisite for support, and doubled in the upper division. The ornaments, too, were all appropriate, and, externally at least, the whole harmonized perfectly with the lines of the building. Internally, the architects were more studious to prepare forms suitable by their dimensions and arrangements for the display of painted glass, than to spend much thought on the form of the frames themselves. The poetry of tracery was gone, but it was not only in this respect that we miss the poetic feeling of earlier days. The mason was gradually taking the guidance of the work out of the hands of the educated classes, and applying the square and the rule to replace the poetic inspirations of enthusiasts and the delicate imaginings by which they were expressed.

569. Perpendicular Tracery, Winchester Cathedral.

It is curious to observe how different the course of events was in France. While Saxon common sense was gradually coming to the surface in this country and curbing every fancy for which a good economic reason could not be given, the Celtic fancy of our neighbours broke loose in all the playful vagaries of the Flamboyant style. Their tracery became so delicate and so unconstructive that it is a wonder it ever stood, and no wonder that half the windows of that date are now without tracery at all. They were framed, too, with foliage so

delicate that it ought to have been executed in metal and never attempted in stone—in wonderful contrast to the plain deep mouldings which surround most of our windows of that period.

EXTERNAL PROPORTIONS.

If the sobriety of proportion which characterized the design of English architects led to satisfactory results internally, its influence was still more favourable on the external appearance of their churches. An English cathedral is always a part of a great group of buildings —the most important and most dignified part, it is true, but always coinciding and harmonizing with its chapter-house, its cloister and conventual buildings, its bishop's palace or abbot's lodging. In France the cathedral is generally like a giant among pigmies—nothing can exist in its neighbourhood. The town itself is dwarfed by the immense incubus that stands in its centre, and in almost no instance can the subordinate buildings be said to form part of the same design—both consequently suffering from their quasi-accidental juxtaposition.

This effect is even more apparent when we come to examine the skyline of the buildings. Their moderate internal dimensions enabled the English architects to keep the roofs low so as to give full effect to the height of the towers, and to project their transepts so boldly as to vary in perspective the long lines of the roofs from whatever point the building was viewed. Their greatest gain, however, was that they were able to place their tallest and most important feature in the centre of their buildings, and so to give a unity and harmony to the whole design which is generally wanting in Continental examples. One of the few cases in which this feature is successfully carried out in France is the church of St. Sernin at Toulouse (woodcut No. 317), but there the body of the building is low and long like the English type, and a tower of the same height as those of the façade at Amiens suffices to give dignity to the whole. That church, however, wants the western towers to complete the composition. In this respect it is the reverse of what generally happens in French cathedrals, where the western façades are rich and beautifully proportioned in themselves but too often overpowered by the building in the rear, and unsupported by any central object. In Germany they took their revenge, and in many instances kill the building to which they are attached. In England the group of three towers or spires—the typical arrangement of our architects—was always pleasing, and very frequently surpasses in grace and appropriateness anything to be found on the Continent. Even when, as at Norwich or at Chichester, the spire is unsupported by any western towers, the same effect of dignity is produced as at Toulouse; the design is pyramidal, and from whatever point it is viewed it is felt to be well balanced, which is seldom the case when the greatest elevation is at one end.

The cathedral at Salisbury (woodcut No. 570), though, like the two last-named, it has no western towers, still possesses so noble a spire in the centre, and two transepts so boldly projecting, that when viewed from any point east of the great transept it displays one of the best proportioned and at the same time most poetic designs of the middle

570. Salisbury Cathedral, from the N.E.

ages. It is quite true that the spire is an afterthought of the 14th century, and that those who added it ought to have completed the design by erecting also two western towers, but, like St. Sernin's, it is complete as it is, and very beautiful. The flêche at Amiens is 20 ft. higher than the spire at Salisbury, being 424 ft. as against

404 ft. Yet the one is among the most imposing objects of which Gothic architecture can boast, the other an insignificant pinnacle that hardly suffices to relieve the monotony of the roof on which it stands.

Lichfield (woodcut No. 571), though one of the smallest of English cathedrals, is one of the most pleasing from having all its three spires

571. View of Lichfield Cathedral. From Britton's 'Cathedral Antiquities.'

complete, and in the proportion originally designed for the building and for each other. The height of the nave internally is only 58 ft., and of the roof externally only 80ft.; yet with these diminutive dimensions great dignity is obtained and great beauty of composition, certainly at less than one-fourth the expenditure in materials and money it would

have cost to produce a like effect among the tall, heavy-roofed cathedrals of the Continent.

Had the octagon at Ely been completed externally,[1] even in wood, it would probably have been superior to the spire at Salisbury both in height and design. As before mentioned, it was left with only a temporary lantern externally, and, as was always the case in England, no drawing—no written specifications of the designer have been left. The masons on the Continent were careful to preserve the drawings of unfinished parts of their designs. The gentlemen architects of England seem to have trusted to inspiration to enable them to mould

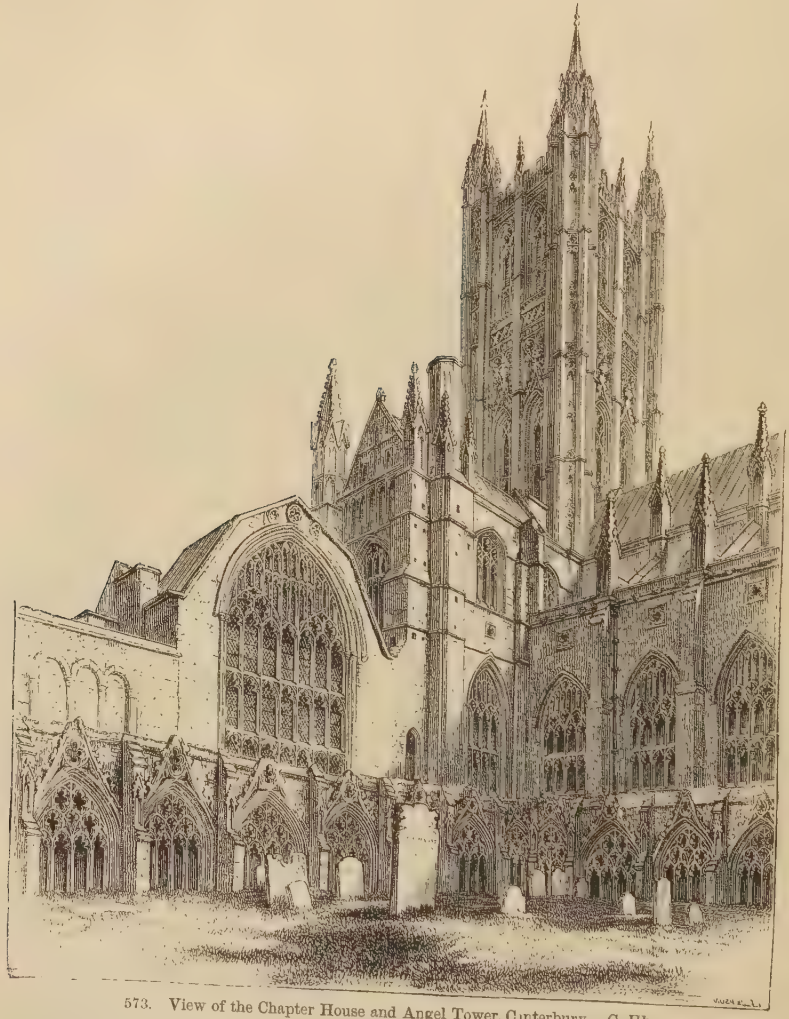
572. Lincoln Cathedral.

their forms into beauty as they proceeded. With true Gothic feeling they believed in progress, and it never occurred to them but that their successors would surpass them in their art, in the manner they felt they were excelling those who preceded them.

The three-towered cathedrals are not less beautiful and characteristic of England than those with three spires. Nothing can exceed the beauty

[1] A splendid chance of trying the effect of this occurred a few years ago, when it was determined to restore the lantern, as a memorial to Dean Peacock. In a fit of purism, only the ugly temporary arrangement was made new. It looked venerable before the recent repairs; now that it is quite new again, it is most unpleasing.

of the outline of Lincoln as it stands on its cliff looking over the Fens (woodcut No. 572); though the erection of a screen in front of the western towers cuts them off from the ground, and so far mars their effect when seen close at hand. York perhaps possesses the best façade



573. View of the Chapter House and Angel Tower, Canterbury. C. Hb.

of the class in England, both as regards proportion and detail. The height of the towers to the top of the pinnacles is under two hundred feet (196), but this is quite sufficient for the nave they terminate, or the central tower with which they group. At Amiens the western towers

are respectively 224 and 205 ft. in height, but they are utterly lost under the roof of the cathedral, and fail to give any dignity to the design.

For poetry of design and beauty of proportion, both in itself and in the building of which it forms a part, perhaps the Angel Tower at Canterbury is the best in England, and is superior to any of the same class of towers to be found elsewhere. It is difficult, however, among so many beautiful objects to decide which is the best. Though the highest tower at Wells is only 165 feet from the ground to the top of the pinnacle, it is quite sufficient for its position, and groups beautifully with the western towers. Though of different ages, the three towers at Durham group beautifully together, and the single tower at Gloucester crowns nobly the central point of that cathedral. But the same is true of all. The central tower or spire is the distinguishing feature of the external design of English cathedrals, and possessing it they surpass all their rivals.

571. West Front of Peterborough Cathedral. From Britton's 'Picturesque Antiquities.'

The western façades of English cathedrals, on the contrary, are generally inferior to those on the Continent. We have none of those deeply recessed triple portals covered with sculpture which give such dignity and meaning to the façades of Paris, Amiens, Rheims, Chartres, and other French cathedrals. Beautiful as is the sculptured façade of Wells, its outline is hard, and its portals mean. Salisbury is worse. Winchester, Exeter, Canterbury, Gloucester, indeed most of our cathedrals, have mean western entrances, the principal mode of access to the building being a side door of the nave. Peterborough alone has a façade at once original and beautiful. Nothing but the portico of a classic temple can surpass the majesty of the three great arches of the façade of this church. The effect is a little marred by the chapel thrust in between the central piers; but, take it all in all, it is one of the most beautiful inventions of the middle ages.

Such a screen would have been better had the arches been flanked

by two more important towers than those which now adorn that façade; but unless the piers of the central tower were sufficient to carry a much more important feature in the centre, the architects showed only their usual discretion in refusing to dwarf the rest of the cathedral by an exaggerated façade.

It may sound like the indulgence of national predilection to say so; but it does seem that the English architects seized the true doctrine of proportion to a greater extent than their contemporaries on the Continent, and applied it more successfully. It will be easily understood that in so complicated and constructive a machine as a Gothic cathedral, unless every part is in proportion the whole will not unite. It is as if in a watch or any delicate piece of machinery, one wheel or one part were made stronger or larger in proportion to all the rest. It may be quite true that it would be better if all were as strong or as large as this one part; but perfection in all the arts is attained only by balance and proportion. Whenever any one part gets too large for the rest the harmony is destroyed. This the English architects perfectly understood. They kept their cathedrals narrow, that they might appear long; they kept them low, that they might not appear too narrow. They broke up the length with transepts, that it might not fatigue by monotony. Externally they kept their roofs low, that with little expenditure they might obtain a varied and dignified sky-line, and they balanced every part against every other so as to get the greatest value out of each without interfering with the whole. A Gothic cathedral, however, is so complicated, there are so many parts and so many things to think of, that none can be said to be perfect. A pyramid may be so, or a tower, or a Greek temple, or any very simple form of building, whatever its size; but a Gothic cathedral hardly can be made so—at least has not yet, though perhaps it might now be; but in the meanwhile the English, considering the limited dimensions of their buildings, seem to have approached a perfect ideal more nearly than any other nation during the middle ages.

Diversity of Style.

There is still another consideration which must not be lost sight of in attempting to estimate the relative merit of Continental and English cathedrals: which is, the extraordinary diversity of style which generally prevails in the same building in this country as compared with those abroad. All the great French cathedrals—such as Paris, Rheims, Chartres, Bruges, and Amiens—are singularly uniform throughout. Internally it requires a very keen perception of style to appreciate the difference, and externally the variations are generally in the towers, or in unessential adjuncts which hardly interfere with the general design. In this country we have scarcely a cathedral, except

Salisbury, of which this can be said. It is true that Norwich is tolerably uniform in plan and in the detail of its walls up to a certain height; but the whole of the vaulting is of the 15th century, and the windows are all filled with tracery of the same date. At Ely, a Norman nave leads up to the octagon and choir of the 14th century, and we then pass on to the presbytery of the 13th. At Canterbury and Winchester the anomalies are still greater; and at Gloucester, owing to the perpendicular tracery being spread over the Norman skeleton, they become absolutely bewildering.

In some, as Wells or York, it must be confessed the increase in richness from the western entrance to Lady Chapel is appropriate, and adds to the effect of the church more than if the whole were uniform throughout. This is particularly felt at Lincoln, where the simplicity of the early English nave and choir blossoms at last into the chaste beauty of the Angel Choir at the east end. It follows so immediately after the rest as not to produce any want of harmony, while it gives such a degree of enrichment as is suitable to the sanctity of the altar and the localities which surround it.

Even, however, when this is not the case, the historical interest attaching to these examples of the different ages of English architecture, goes far to compensate for the want of architectural symmetry, and in this respect the English cathedrals excel all others. That history which on the Continent must be learnt from the examination of fifty different examples, may frequently be found in England written complete in a single cathedral. The difficulty is to discriminate how much of the feeling thus excited is due to Archæology, and how much to Architecture. In so far as the last-named art is concerned, it must probably be confessed that our churches do suffer from the various changes they have undergone, which, when architecture alone is considered, frequently turn the balance against them when compared with their Continental rivals.

Situation.

Whatever conclusion may be arrived at with regard to some of the points mooted in the above section, there can be no doubt that in beauty of situation and pleasing arrangement of the entourage the English cathedrals surpass all others. On the Continent the cathedral is generally situated in the market-place, and frequently encumbered by shops and domestic buildings, not stuck up against it in barbarous times, but either contemporary, or generally at least mediæval; and their great abbeys are frequently situated in towns, or in localities possessing no particular beauty of feature. In England this is seldom or never the case. The cathedral was always surrounded by a close of sufficient extent to afford a lawn of turf and a grove of trees. Even

in the worst times of Anne and the Georges, when men chiselled away the most exquisite Gothic canopies to set up wooden classical altar-screens, they spared the trees and cherished the grass; and it is to this that our cathedrals owe half their charm. There can be no greater mistake than to suppose that the architect's mission ceases with heaping stone on stone, or arranging interiors for convenience and effect. The situation is the first thing he should study; the arrangement of the accessories, though the last, is still amongst the most important of his duties.

Durham owes half its charm to its situation, and Lincoln much of its grandeur. Without its park the cathedral at Ely would lose much of its beauty; and Wells, lying in its well wooded and watered vale, forms a picture which may challenge comparison with anything of its class. Even when situated in towns, as Canterbury, Winchester, or Gloucester, a sufficient space is left for a little greenery to keep off the hum and movement of the busy world. York, among our great cathedrals, is about the most unfortunate in this respect, and suffers accordingly. But in order to appreciate how essentially the love of Nature mingled with the taste for architectural beauty during the middle ages, it is necessary to visit some of the ruined abbeys whose ruins still sanctify the green valleys or the banks of placid streams in every corner of England.

Even if it should be decided that in some respects the architects of England must yield the palm to those of the Continent as regards the mechanical perfection of their designs, it must at least be conceded, that in combining the beauties of Art with those of Nature they were unrivalled. Their buildings are always well fitted to the position in which they are placed. The subsidiary edifices are always properly subordinated, never too crowded nor too widely spaced, and always allowing when possible for a considerable admixture of natural objects. Too frequently in modern times—even in England—this has been neglected; but it is one of the most important functions of the architect, and the means by which in many instances most agreeable effects have been produced.

CHAPTER-HOUSES.

The chapter-house is too important and too beautiful an adjunct to be passed over in any sketch, however slight, of English architecture. It also is almost exclusively national. There are, it is true, some "Salles Capitulaires" attached to Continental cathedrals or conventual establishments, but they are little more than large vestry-rooms, with none of that dignity or special ordinance that belongs to the English examples. One cause of the small importance attached to this feature on the Continent was that, in the original Basilica, the apse was the

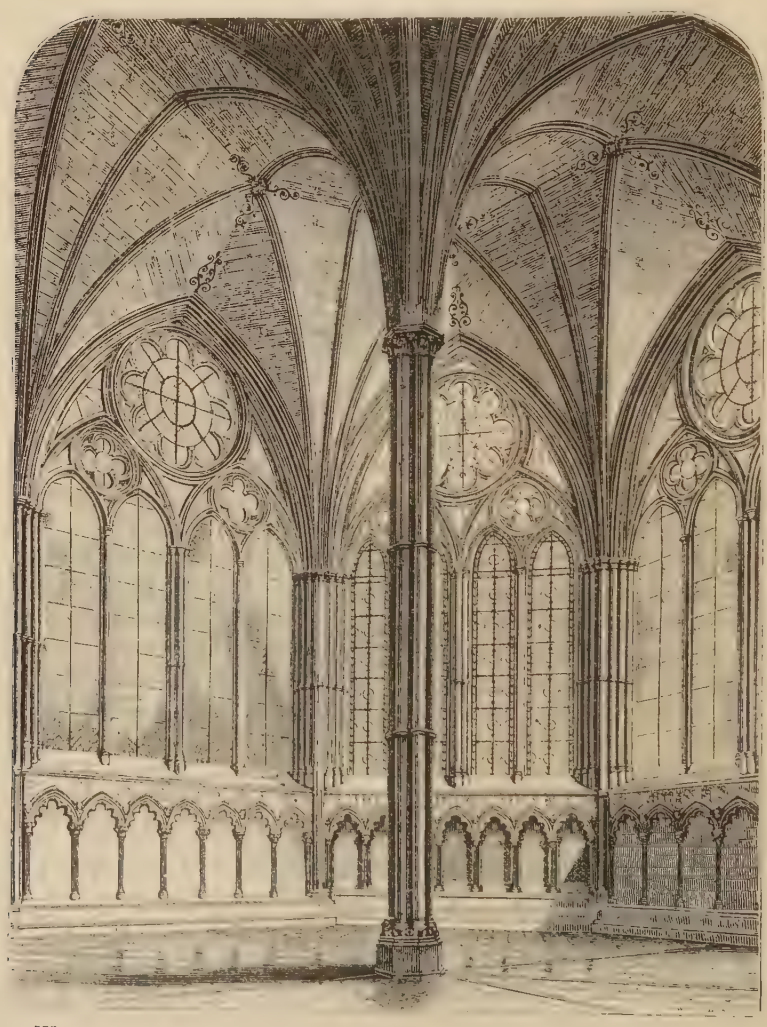
assembly-place, where the Bishop sat in the centre of his clergy and regulated the affairs of the church. In Italy this arrangement continued till late in the middle ages. In France it never seems to have had any real existence, though figuratively it always prevailed. In England we find the Bishop's throne still existing in the choir at Norwich; and at Canterbury, and doubtless in all the apsidal Norman cathedrals, this form of consistory originally existed. Such an arrangement was well suited for the delivery of an allocution or pastoral address by the Bishop to his Clergy, and was all that was required in a despotic hierarchy like the French Church; but it was by no means in accordance with the Anglo-Saxon idea of a deliberative assembly which should discuss every question as a necessary preliminary to its being promulgated as a law.

In consequence of this, we find in England chapter-houses attached to cathedrals even in early Norman times. These were generally rectangular rooms, 25 or 30 ft. wide by about twice that extent in length. We can still trace their form at Canterbury and Winchester. They exist at Gloucester and Bristol and elsewhere. So convenient and appropriate does this original form appear, that it is difficult to understand why it was abandoned, unless it was that the resonance was intolerable. The earliest innovation seems to have been at Durham, where, in 1133, a chapter-house was commenced with its inner end semicircular; but shortly after this, at Worcester, a circular chamber with a central pillar was erected, and the design was so much approved of, that it became the typical form of the English chapter-house ever afterwards. Next, apparently, in date came Lincoln, and shortly afterwards the two beautiful edifices at Westminster and Salisbury. The former, commenced about the year 1250, became, without any apparent incongruity, the Parliament house of the nation, instead of the council chamber of a monastic establishment; and all the parliaments of the kingdom were held within its walls till the dissolution of the religious orders placed the more convenient rectangular chapel of St. Stephen at their disposal.

Salisbury chapter-house (woodcut No. 575) was erected shortly afterwards; and, though its original beauties have been to a great extent washed out by modern restorations, it still affords a very perfect type of an English chapter-house of the 13th century, at a time when the French geometric tracery was most in vogue. That at Wells (1293–1302, woodcut No. 576), however, is more beautiful and more essentially English in all its details. The tracery of the windows, the stalls below them, and the ornaments of the roof, are all of that perfect type which prevailed in this country about the year 1300. Its central pillar may perhaps be considered a little too massive for the utilitarian purpose of the building, but as an architectural feature its proportions are perfect. Still the existence of the pillar was a defect that it was

thought expedient to remove, if possible; and it was at last accomplished in the chapter-house at York, the most perfect example of the class existing, as its boasting inscription testifies,—

"Ut Rosa flos florum,
Sic ista Domus Domorum."

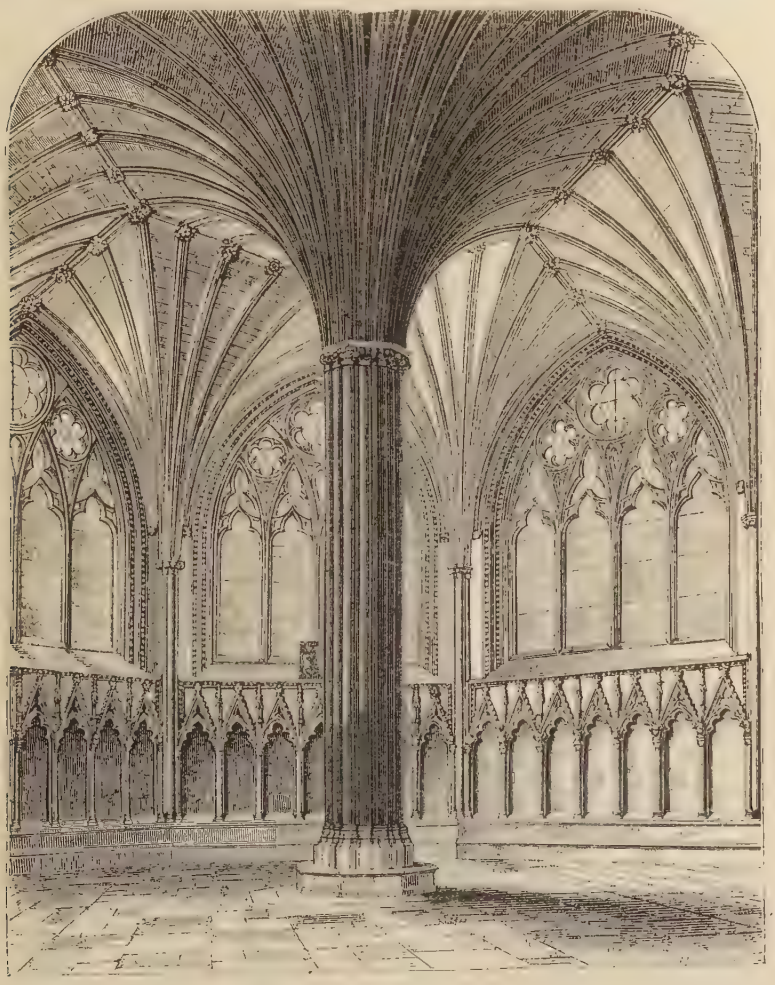


575. Chapter-House, Salisbury. C. Hb.

Like all the rest of them, its diameter is 57 or 58 ft.—as has been suggested, an octagon inscribed in a circle of 60 ft. diameter. In this instance alone has a perfect Gothic dome been accomplished. It is 12 ft. less in diameter than the lantern at Ely, and much less in height; but it is extremely beautiful both in design and detail, and

makes us regret more and more that, having gone so far, the Gothic architects did not follow out this invention to its legitimate conclusion.

By the time, however, that York chapter-house was complete, all the great cathedrals and monastic establishments had been provided with this indispensable adjunct to their ecclesiastical arrangements, and none were erected either in the Lancastrian or Tudor periods of



576. Chapter-House, Wells. C. Hb.

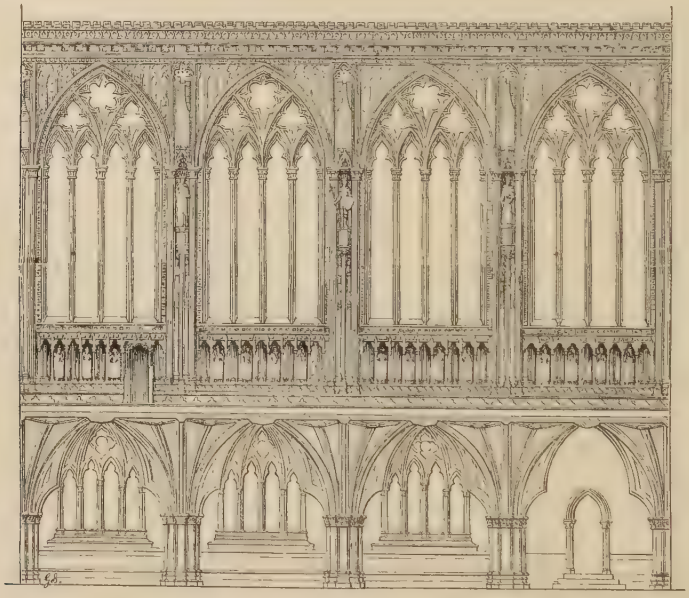
the art, so that we can hardly guess what might have been done had a monastic parliament-house been attempted at a later date.[1]

[1] The central octagon of the Parliament houses is 65 feet in diameter, and is the best specimen of a modern Gothic dome which has been attempted.

Chapels.[1]

Although not so strictly peculiar, the forms of English chapels were so original and offer so many points of interest that they are well worthy of study.

There is perhaps no example of a Norman chapel now existing, unless the remains of the infirmary chapels at Canterbury and Ely may be considered as such. The practice of erecting them seems to have arisen with our educational colleges, where all those present took part in the service, and the public were practically excluded. One of the finest and earliest of these is that of Merton College, Oxford. It has, and was always designed to have, a wooden roof; but of what fashion is not quite clear, except that it certainly could never have been like the one now existing.



577. Internal Elevation of St. Stephen's Chapel, Westminster.

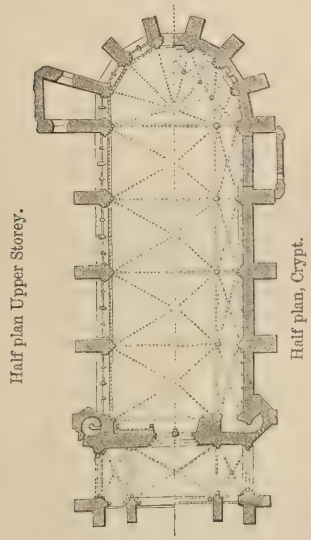
The typical specimen of that age, however, was the royal chapel of St. Stephen's at Westminster, which, from what remained of it till after the great fire, we know must have been the most exquisitely beautiful specimen of English art left us by the middle ages.[2]

[1] A chapel, properly speaking, is a hall designed for worship, without any separation between classes. A church has a chancel for the clergy, a nave for the laity. A cathedral has these and attached chapels and numerous adjuncts, which do not properly belong to either of the other two.

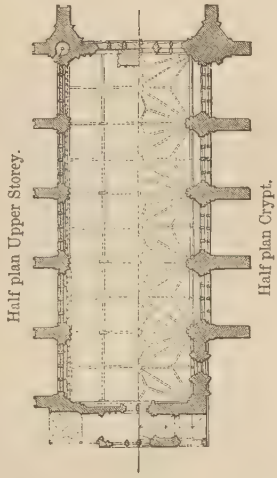
[2] Few things of its class are more to be regretted than the destruction of this beautiful relic in rebuilding the Parliament Houses. It would have been cheaper to

It was 92 ft. long by 33 ft. wide internally, and 42 ft. high to the springing of the roof. This was of wood, supported by hammer-beam trusses similar to, but evidently more delicate in design and more elegantly carved than those of Westminster Hall, which were apparently copied from those of the chapel. The proportions were beautiful; but the greatest charm was in its details, which were carried out evidently by the best artists, and with all the care that was required in the principal residence of the sovereign.

Though nearly a century later in date,[1] St. Stephen's Chapel is so nearly a counterpart of the royal chapel at Paris—"the Sainte Chapelle"—that it may be worth while to pause a second to compare the two. In dimensions, on plan, they are not dissimilar; both are raised



578. Plan of Ste. Chapelle, Paris, Scale 50 ft. to 1 in.



579. Plan of St. Stephen's, Westminster. Scale 50 ft. to 1 in.

on an under-croft or crypt of great beauty. The French example has the usual apsidal termination; the English the equally characteristic square east end. The French roof is higher and vaulted; the English was lower and of wood. It is impossible to deny that the French

restore it, and infinitely more beautiful when restored than the present gallery which takes its place. It is sad, too, to think that nothing has been done to reproduce its beauties. When the colleges of Exeter at Oxford, or St. John's, Cambridge, were rebuilding their chapels, it would have been infinitely better to reproduce this exquisite specimen of English art than the models of French chapels which have been adopted. The work published for the Woods and Forests by Mr. Mackenzie is rendered useless by the addition of an upper storey which never existed.

[1] The Sainte Chapelle was commenced 1244, and finished 1248. The works of St. Stephen's were commenced apparently 1292, but were not finished till 1348.

chapel is very beautiful, and only wants increased dimensions to merit the title of a sublime specimen of Gothic art; but the English example was far more elegant. All the parts are better balanced, and altogether it was a far more satisfactory example than its more ambitious rival, of the highest qualities to which the art of the middle ages could attain.

580. Interior View of King's College Chapel, Cambridge.

We have an excellent means of ascertaining how far St. Stephen's Chapel would have been damaged by a vaulted roof, by comparing it with the nearly contemporary chapel at Ely (1321–1349), erected

under the superintendence of the same Alan de Walsingham who designed the octagon of the church. Its internal dimensions are 100 ft. long by 43 wide, and 60 high. The details of the screen of niches which form a dado round the whole chapel are perhaps, without exception, the most exquisite specimens of decorative carving that survive from the middle ages. The details of the side windows are also good, but the end windows are bad in design, and neither externally nor internally fit the spaces in which they are placed. With painted glass this might be remedied, internally at least; but the whole design is thrown out of harmony by its stone roof. As a vault its width is too great for its length; the height insufficient for its other dimensions; and altogether, though its details are beyond all praise, it leaves a more unsatisfactory impression on the mind than almost any other building of its class.

King's College Chapel at Cambridge (1479–1515) errs in exactly the opposite direction. It is too long for its width, but has height sufficient to redeem the length, though at the expense of exaggerating its narrowness. These, however, are all errors in the direction of sublimity of effect; and though greater balance would have been more satisfactory, the chapel is internally so beautiful that it is impossible not to overlook them. It is more sublime than the Sainte Chapelle, though, from its late age, wanting the beauty of detail of that building.

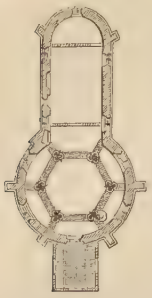
Henry VII.'s chapel (1502–1515) differs from all previous examples, in having a circumscribing aisle and a clerestory. Its proportions are not, however, pleasing, but it makes up in richness of detail for any defects of design.

Of the three royal chapels, that at Windsor (1475–1521) is perhaps on the whole the most satisfactory. Being a chapel, it has no western or central towers to break its sky-line and give it external dignity; but internally it is a small cathedral, and, notwithstanding the lateness of some of its details (part of the vault was finished in the reign of Henry VIII.), is so elegant and so appropriate in every part as to be certainly one of the most beautiful Gothic buildings in existence; for its size, perhaps, the most beautiful. Considering that these three last-named chapels were being erected contemporaneously with St. Peter's at Rome, it is wonderful how little trace of classic feeling they betray; and how completely not only Gothic details but true Gothic feeling still prevailed in this country almost up to the outbreak of the Reformation.

Parish Churches.

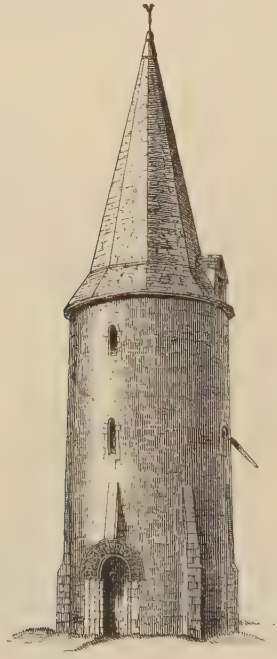
Were it possible in a work like this to attempt anything approaching an exhaustive enumeration of the various objects of interest produced during the middle ages, it would be impossible to escape a very long chapter on the parish churches of England. They are not so magnificent as her cathedrals, nor so rich as her chapels: but for beauty

of detail and appropriateness of design they are unsurpassed by either, while on the Continent there is nothing to compare with them. The parochial system seems to have been more firmly rooted in the affection of the people of this country than of any other. Especially in the 14th and 15th centuries the parishioners took great pride in their churches, and those then erected are consequently more numerous as well as more ornamental than at any other time.



581. Plan of Circular Church at Little Maplestead. Scale 50 ft. to 1 in.

Strange to say, considering how common the circular form was in the countries from which our forefathers are said to have emigrated, it never took root in England. The round churches at Cambridge, Northampton, and London, were certainly sepulchral, or erected in imitation of the church at Jerusalem. The one known example of a village church with a circular nave is that at Little Maplestead, in Essex. It is of the pure German or Scandinavian type[1]—a little St. Gereon, standing alone



582. Spire of Great Leighs Church, Essex.

583. Tower of Little Saxham Church, Suffolk.

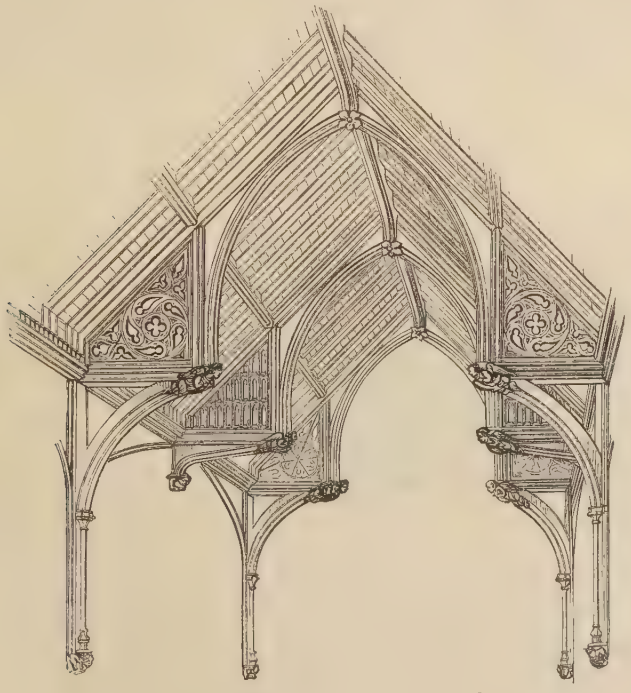
in this form in England; but a curious modification of it occurs in the eastern counties, in which this church is situated, which points very distinctly to the origin of a great deal of the architecture of that country. There are in Norfolk and Suffolk some forty or fifty churches

[1] Vide ante, vol. i. p. 610, and p. 667, et seq.

with round western towers, which seem undoubtedly to be mere modifications of the western round nave of the Scandinavian churches. In the first volume, Läderbro Church (woodcut No. 532) was pointed out as an example of a circular nave attenuated into a steeple, and there are no doubt many others of the same class in Scandinavia. It was, however, in England, where rectangular naves were common, that the compromise found in this country became fashionable. These Norfolk churches with round towers may consequently be looked upon as safe indexes of the existence of Scandinavian influences in the eastern counties, and also as interesting examples of the mode in which a compromise is frequently hit upon between the feelings of intrusive races and the habits of the previous inhabitants.

It can scarcely be doubted that round-naved and round-towered churches existed in the eastern counties anterior to the Norman Conquest; but if any still remain they have not been described. The earliest that are known were erected during the Norman period, and extend certainly down to the end of the Edwardian period. Some of the towers have perpendicular details, but these seem insertions, and consequently do not indicate the date of the essential part of the structure.

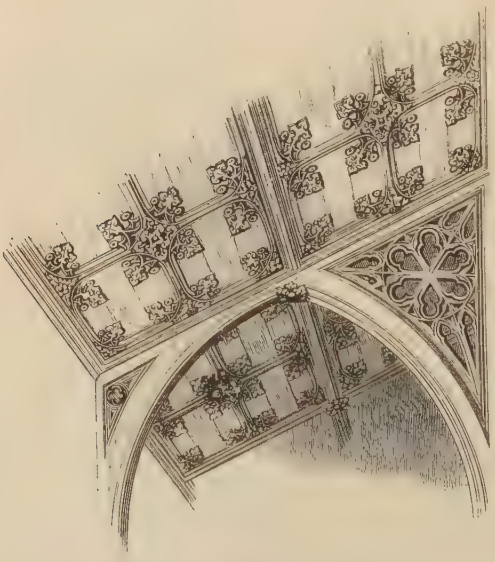
As a rule, the English parish church is never vaulted, that species of magnificence being reserved, after the Norman times at least, for



584. Roof at Trunch Church. From a Drawing by H. Clutton.

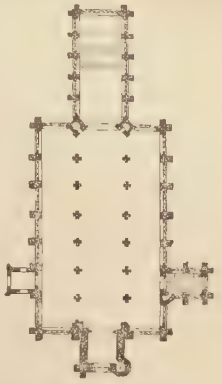
cathedrals and collegiate churches; but, on the other hand, their wooden roofs are always appropriate, and frequently of great beauty. So essential does the vault appear to have been to Gothic architecture both abroad and in this country, that it is at first sight difficult to admit that any other form of covering can be as beautiful. But some of the roofs in English churches go far to refute the idea. Even, however, if they are not in themselves so monumental and so grand, they had at least this advantage that the absence of the vault allowed the architect to play with the substructure. He was enabled to lighten the pillars of the nave to any extent he thought consistent with dignity, and to glaze his clerestory in a manner which must have given extreme brilliancy to the interior when the whole was filled with painted glass. Generally with a wooden roof there were two windows in the clerestory for one in the aisles: with a vaulted roof the tendency was the other way. Had they dared, they would have put one above for two below. But the great merit of a wooden roof was, that it enabled the architect to dispense with all flying buttresses, exaggerated pinnacles, and mechanical expedients, which were necessary to support a vault, but which often sadly hampered and crowded his designs.

So various were the forms these wooden roofs took that they almost defy classification. The earlier and best type was a reminiscence, rather than an imitation, of the roof of St. Stephen's Chapel or Westminster Hall, but seldom so deeply framed. That at Trunch Church, Norfolk (woodcut No. 584), may be taken as a fair average specimen of the form adopted for the larger spans, and that at New Walsingham of the mode adopted for roofing aisles. Some, of course, are simpler, but many much more elaborate. In later periods they became flatter, and more like the panelled ceiling of a hall or chamber; but they were always perfectly truthful in construction, and the lead was laid directly on the boarded framing. They thus avoided the double roof, which was so inherent a defect in the vaulted forms, where the stone ceiling required to be protected externally by a true roof.



585. Roof of Aisle in New Walsingham Church.

Among so many examples it is difficult to select one which shall represent the class, but the annexed plan of Walpole St. Peter's, Norfolk, will suffice to explain the typical arrangement of an English parish church. In almost every instance the nave had aisles, and was lighted by a clerestory. The chancel was narrow and deep, without aisles, and with a square termination. There was one tower, with a belfry, generally, but not always, at the west end; and the principal entrance was by a south door, usually covered by a porch of more or less magnificence, frequently, as in this instance, vaulted, and with a muniment room or library chamber over it.



586. Plan of Church of Walpole St. Peter's, Norfolk. Scale 100 ft. to 1 in.

Often, as at Coventry, Boston, and other places, these churches with the above described arrangements almost reached the dimensions of small cathedrals, the towers and spires matching those of the proudest ecclesiastical edifices; and in many instances the details of their tracery and the beauty of their sculptured ornaments are quite equal to anything to be found in the cathedral of the diocese.

Details.

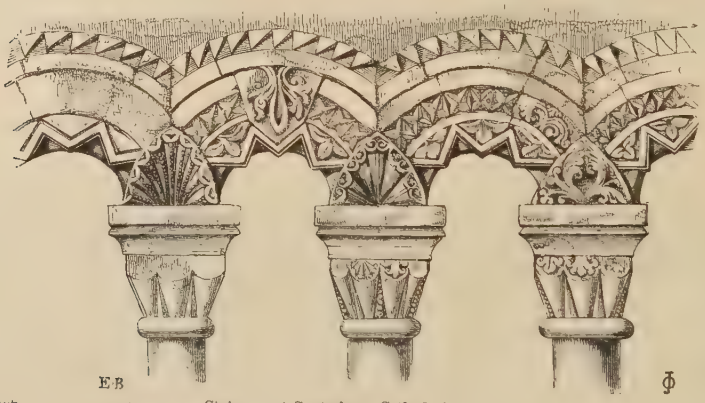
When we consider the brilliancy of invention displayed in the decorative details of French ecclesiastical buildings, the play of fancy and the delicacy of execution, it must perhaps be admitted that in this respect the French architects of the middle ages far excelled those of any other nation. This was, no doubt, due in a great measure to the reminiscences of classical art that remained in the country, especially in the south, where the barbarian influence never really made itself felt, and whence the feeling gradually spread northwards; and may be traced in the quasi-classical details of the best French examples of the 13th century, even in the Isle de France. More also should perhaps be ascribed to the Celtic feeling for art, which still characterizes the French nation, and has influenced it ever since its people became builders.

Though the English must yield the palm to the French in this respect, there is still a solidity and appropriateness of purpose in their details which goes far to compensate for any want of fancy. There is also in this country a depth of cutting and a richness of form, arising from the details being so often imitated from wood-carving, which is architecturally more valuable than the more delicate exuberance of French examples.

These remarks apply with almost equal force to figure-sculpture

as a mode of decoration. Neither in Germany nor in this country is anything to be found at all comparable with the great sculptured Bibles of Rheims, Chartres, Bruges, and other great cathedrals of France: even such as Poitiers, Arles, St. Gilles, are richer in this respect than many of our largest churches. It is true that the sculptures of the façade at Wells, or of the Angel Choir at Lincoln, are quite equal in merit to anything of the same period on the Continent; and, had there been the same demand, we might have done as well or better than any other nation. Whether it arose from a latent feeling of respect for the Second Commandment, or a cropping out of Saxon feeling, certain it is that figure-sculpture gradually died out in England. In the 14th century it was not essential; in the 15th and 16th it was subordinate to the architectural details, and in this respect the people became Protestant long before they thought of protesting against the pope and the papist form of worship.

As already hinted at, it is probable that a great deal of the richness of English decorative carving is due to the employment, in early times, of wood as a building material in preference to stone. It is difficult,



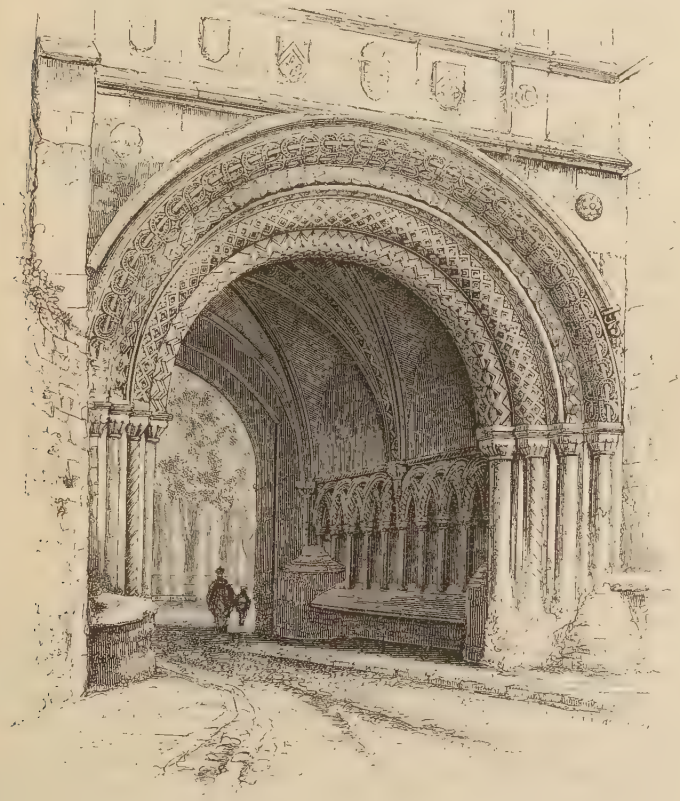
587. Staircase at Canterbury Cathedral.

for instance, to understand how such a form of decorative arch as that on the old staircase at Canterbury could have arisen from any exigency of stone construction; but it displays all that freedom of form and richness of carving that might easily arise from the employment of timber.

The same remarks apply, though in a less degree, to the Norman gateway at Bristol (woodcut No. 588); which may be regarded as a typical specimen of the style—sober, and constructive, yet rich—without a vestige of animal life, but with such forms as an ivory or wood carver might easily invent, and would certainly adopt.

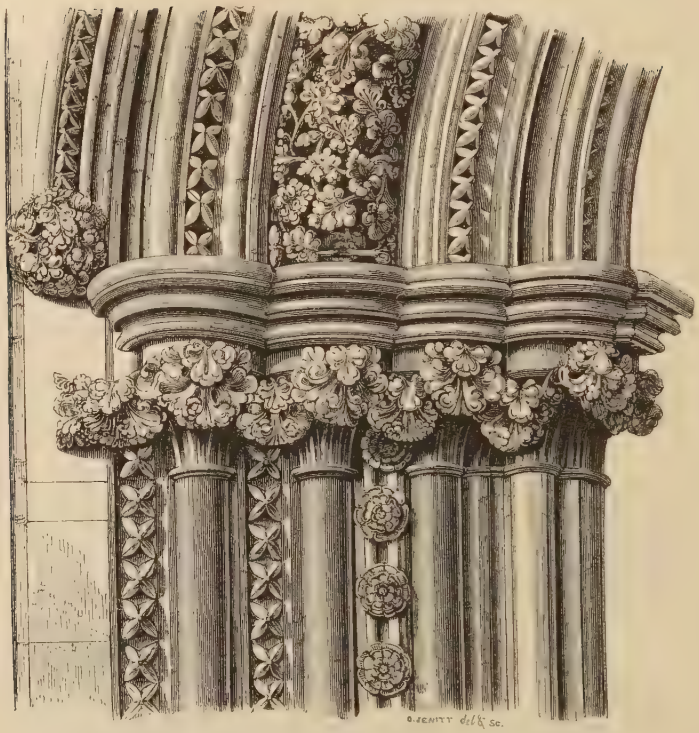
The great defect of such a style of decoration as this was its extreme

elaboration. It was almost impossible to carry out a large building, every part of which should be worked up to the same key-note as this; and, if it had been done, it would have been felt that the effect was not commensurate with the labour bestowed upon it. What the architects therefore set to work to invent was some mode of decoration which should be effective with a less expenditure of labour. This they soon discovered in the deep-cut mouldings of the Gothic



588. Norman Gateway, College Green, Bristol. C. Hb.

arch, with the occasional intermixture of the dog-tooth moulding (as in the nave at Lichfield, woodcut No. 548), which was one of the earliest and most effective discoveries of the 13th century. Sometimes a band of foliage was introduced with the dog-tooth, as in the doorways leading to the choir aisles at Lincoln (woodcut No. 589), making together as effective a piece of decoration as any in the whole range of English architecture,—more difficult to design, but less expensive to execute than many Norman examples, and infinitely more effective when done.

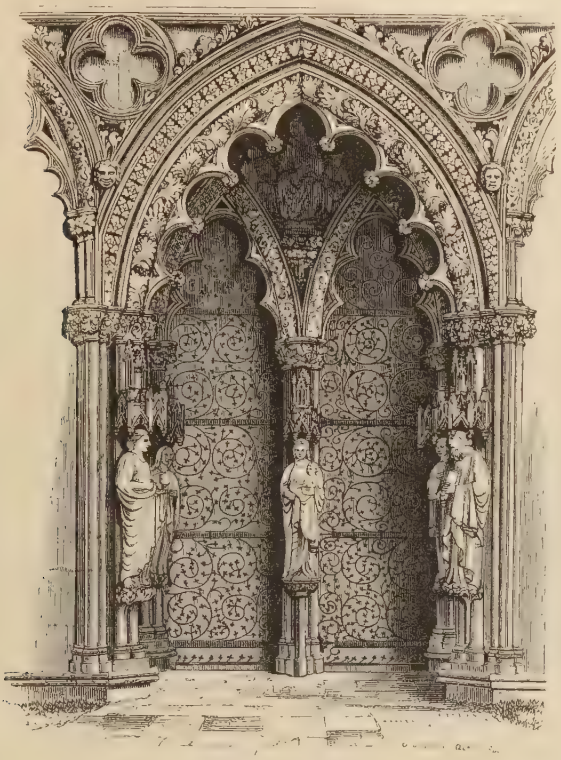


589. Capitals, &c., of Doorway leading to the Choir Aisles, Lincoln. C. Hb.

The west doorway at Lichfield (A.D. 1275, woodcut No. 590) shows the style in its highest degree of perfection. There is just that admixture of architectural moulding with decorative foliage which is necessary to harmonize the constructive necessities of the building with the decorative purposes to which it was to be applied, combined with a feeling of elegance which could only have proceeded from a thoroughly cultivated and refined class of intellect.

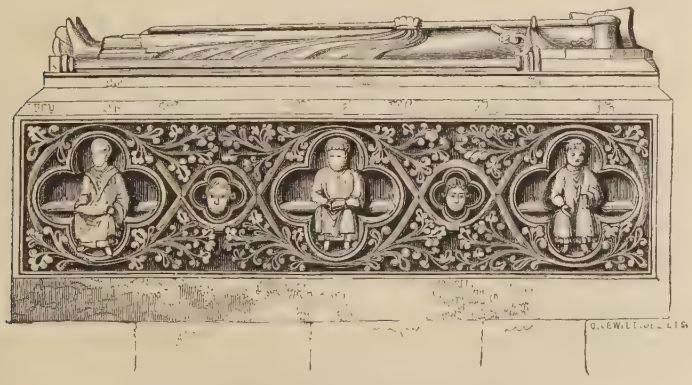
Everything in England of the same age bears the same impress, so that it is difficult to go wrong in selecting examples, though hopeless to expect with any reasonable amount of illustration to explain its beauties. The niches at the back of the altar-screen at Winchester are among the best examples of that combination of constructive lines and decorative details which, when properly balanced, make up the perfection of architectural decoration; or perhaps even better than these are the heads of the three niches over the sedilia in the parish church at Heckington in Lincolnshire (woodcut No. 592). The style of these examples is peculiar to England, and quite equal to anything that can be found on the Continent; and thousands of examples, more or less perfect, executed during the Edwardian period, exist in every corner of the country. Bishop Marshall's tomb at Exeter (woodcut No. 591),

though somewhat earlier, displays the same playful combination of conventional foliage with architectural details.



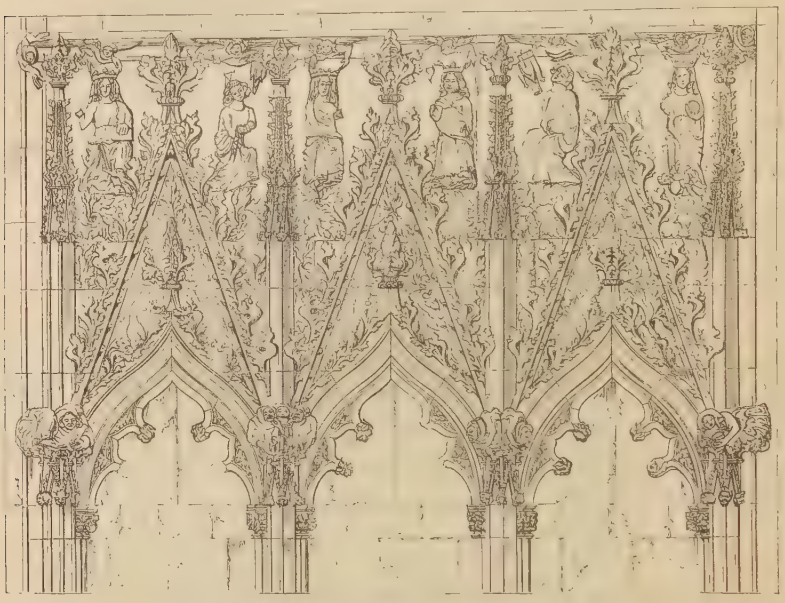
590. West Doorway, Lichfield Cathedral. C. Hb.

After the year 1300, however, we can perceive a change gradually creeping over the style of decoration. Constructive forms are becoming more and more prominent; merely decorative features being



591. Tomb of Bishop Marshall, Exeter Cathedral. C. Hb.

gradually dropped as years went on. In Prior de Estria's screen in Canterbury Cathedral, for instance (woodcut No. 593), though all the elegance of earlier times is retained, the principal features are mechani-

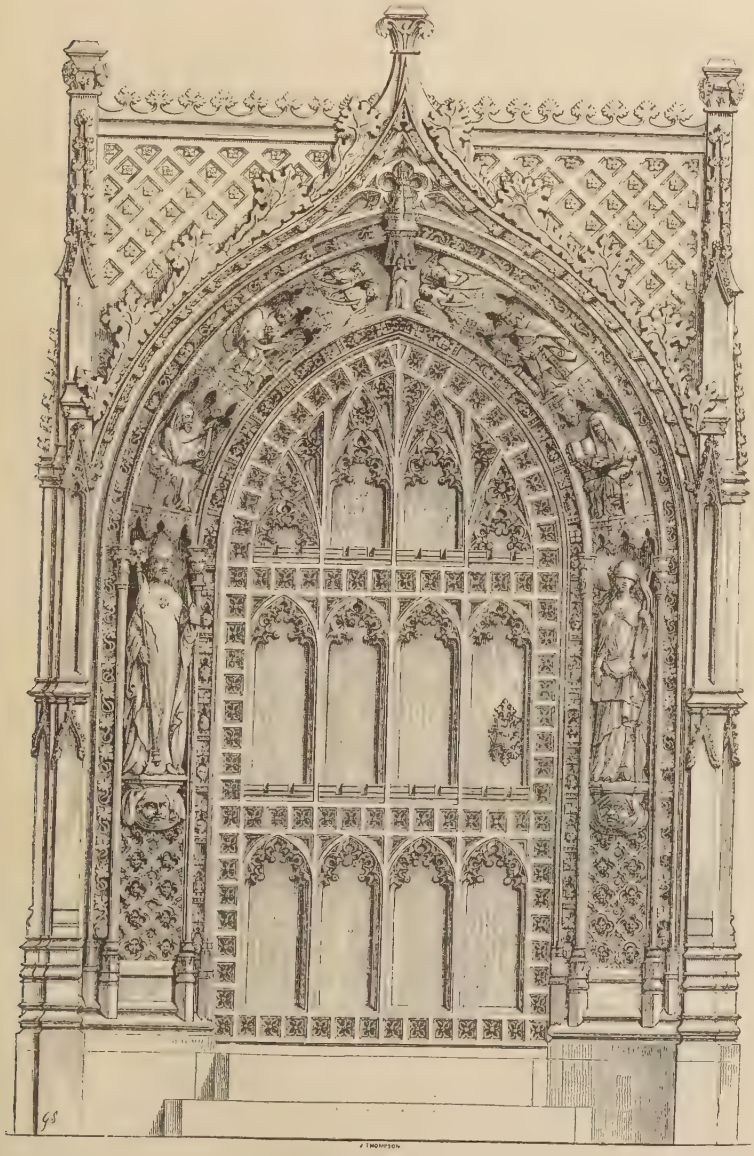


592. Triple Canopy, Heckington Church, Lincolnshire.

cal, and the decoration much more subdued than in the examples just quoted. The celebrated doorway leading to the chapter-house at Rochester (woodcut No. 594) is a still more striking example of this. It

593. Prior de Estria's Screen, Canterbury Cathedral. C. Hb.

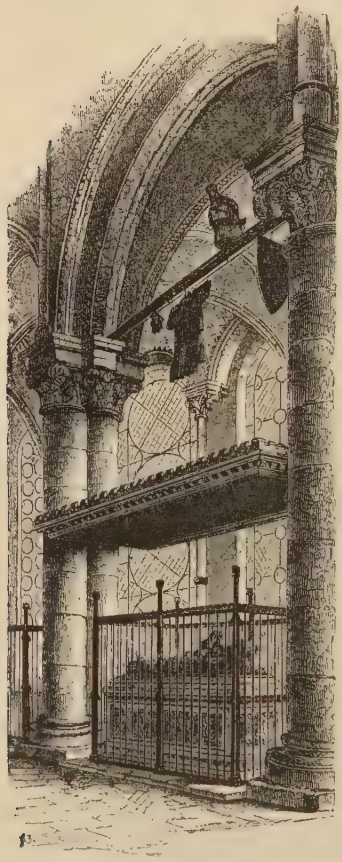
is rich even to excess; but the larger part of its decoration consists of ornaments which could be drawn with instruments. Of free hand carving there is comparatively little; and though the whole effect is very satisfactory there is so evident a tendency towards the mere mechanical arrangement of the Perpendicular style that it does not please to the same extent as earlier works of the same class.



594. Doorway of Chapter-House, Rochester Cathedral. C. Hb.

Tombs.

Among the more beautiful objects of decorative art with which our churches were adorned during the middle ages are the canopies or shrines erected over the burying-places of kings or prelates, or as cenotaphs in honour of their memory. Simple slabs, with a figure upon them, seem to have been all that was attempted during the Norman period; but the pomp of sepulchral magnificence gradually developed itself, so that by the end of the 13th or beginning of the 14th century we have some of the most splendid specimens existing, and the practice lasted down almost to the Renaissance, as exemplified in Bishop West's tomb at Ely (1515–1534), or Bishop Gardiner's at Winchester (1531–1555).



595. Tomb of the Black Prince, Canterbury Cathedral. C. 14b.

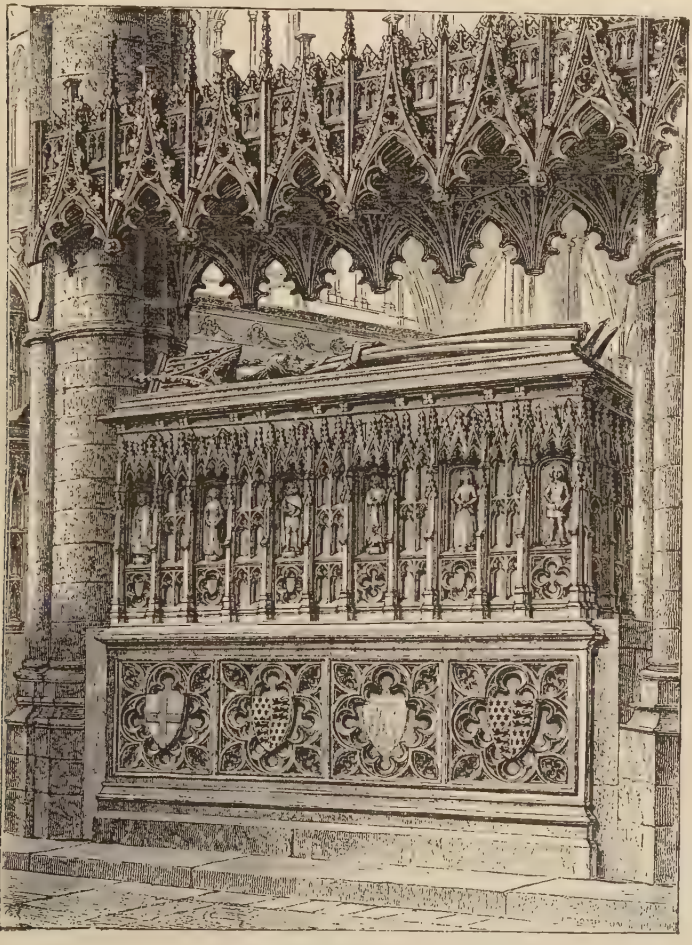
At first the tomb-builders were content with a simple wooden tester, like that which covers the tomb of the Black Prince at Canterbury; but this became one of great beauty when applied, as in Westminster Abbey, to the tomb of Edward III. (woodcut No. 596), where its appropriateness and beauty of detail distinguish it from many more ambitious shrines in stone.

In general design these two monuments are similar to one another, and must have been erected very nearly at the same time — the difference being in the superior richness and elaboration of the Regal as compared with the Princely tomb.

Although this form of wooden tester was the most usual in monuments of the age, stone canopies were also frequently employed, as in the well-known monument of Aymer de Valence (died 1324) in Westminster Abbey. But all previous examples were excelled by the beautiful shrine which the monks of Gloucester erected over the burying-place of the unfortunate Edward II. (woodcut No. 597). In its class there is nothing in English architecture more beautiful than this. It belongs to the very best age of the style, and is carried out with a degree of propriety and elegance which has not been surpassed by any example now remaining. If the

statues with which it was once adorned could now be replaced, it would convey a more correct idea of the style of the Edwardian period than can be obtained from larger examples.

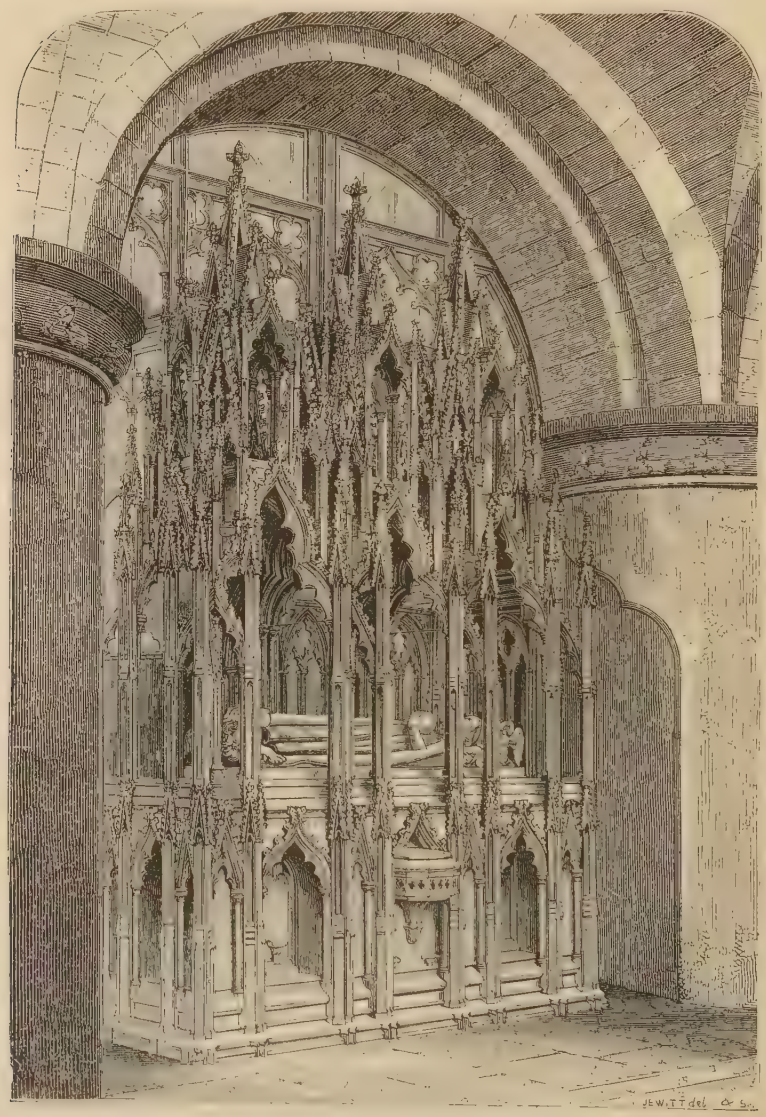
It seems to have been as much admired then as now; for we find its form repeated, with more or less correctness of outline and detail, at Winchester, at Tewkesbury, and St. Alban's, as well as elsewhere, the whole forming a series of architectural illustrations unmatched in their class by anything on the continent of Europe.



596. Tomb of Edward III. in Westminster Abbey.

As a fine specimen of the form taken by a multitude of these tombs during the last period of Gothic art we may select that of Bishop Redman at Ely (1501–1506). Though so late in date, there is nothing offensive either in its form or detail. On the contrary, it is well proportioned and appropriate; and though there is a little display of over-

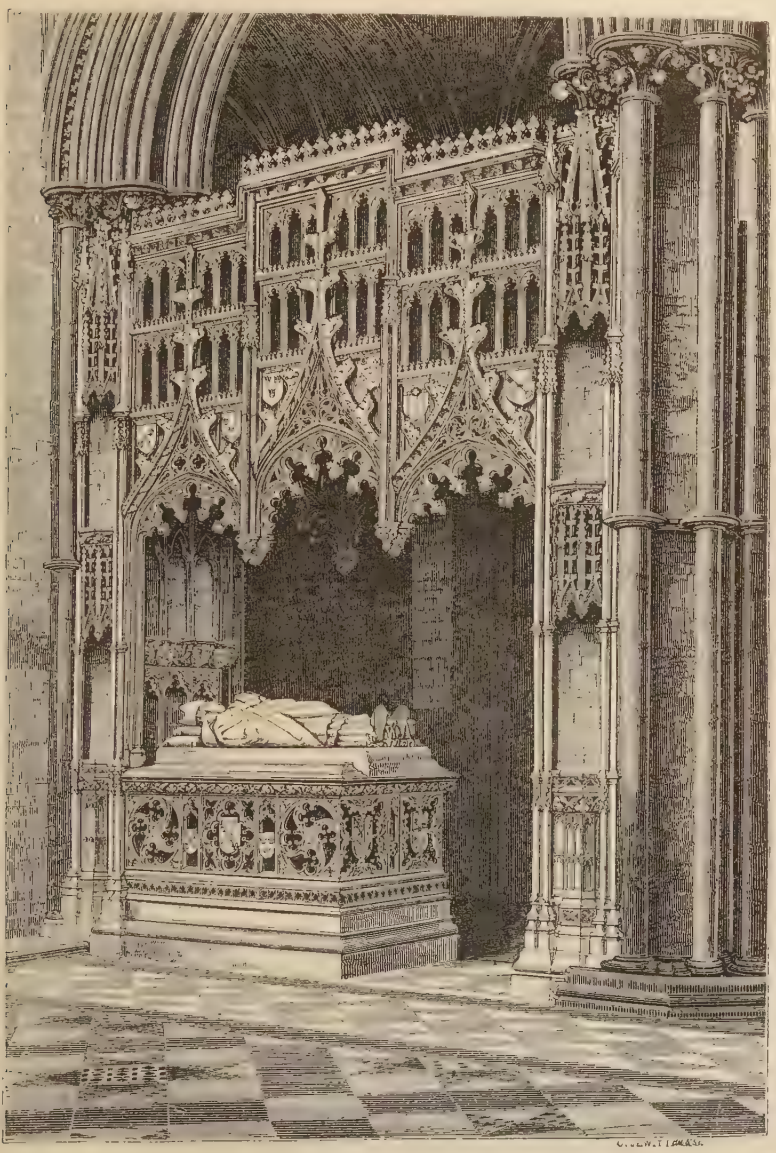
ingenuity in making the three arches of the canopy sustain themselves without intermediate supports, this is excusable from its position between two massive piers. It is doing in stone what had been done



597. Tomb of Edward II. in Gloucester Cathedral. C. Hb.

in wood over Edward III.'s tomb at Westminster, and is one of many instances which might be quoted of the interchangeableness of wooden and stone forms during the whole of the middle ages in this country, and a proof of the influence the one always had on the other.

Among the most beautiful monuments of a quasi-sepulchral character existing in this country are the crosses erected by Edward I. on the spots at which the body of his queen Eleanor rested on its way



598. Tomb of Bishop Redman in Ely Cathedral. C. Hb.

from Nottinghamshire to London. Originally, it is said, there were fifteen of these, all different in design. Three only now remain: one near Northampton, one at Geddington, and a third at Waltham

(woodcut No. 599).[1] Though greatly dilapidated, enough remains to show what was the original design. While extremely varied both in outline and detail, every part is elegant, and worthy of the best age of English architecture.

599. Waltham Cross (restored).

Had it not been the custom in those days to bury the illustrious dead within the walls of the churches, this is probably the form which sepulchral monuments would generally have taken. If we may judge from the examples left us, we can have little doubt but that with more experience and somewhat increased dimensions, these monuments would have surpassed the spires of our cathedrals or parish churches in every respect, as architectural designs. Being entirely free from utilitarian exigences, the architect had only to consult the rules of his art in order to produce what would be most pleasing and most appropriate. We can only therefore regret that so purely English a form of sepulchral design began and ended with this act of conjugal devotion.

[1] Mr. Scott produced a free copy of one of them as the Oxford Martyrs' Memorial, and Edward Barry another as a restoration of Charing Cross. Both are very beautiful objects, but neither of them exhausts the subject.

Civil and Domestic Architecture.

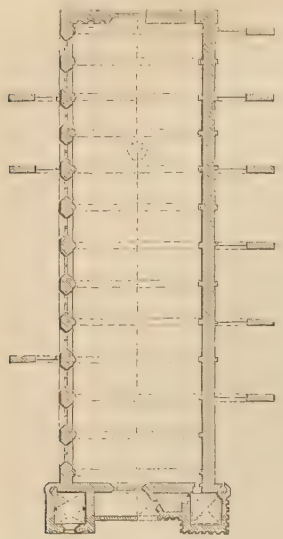
One of the most remarkable characteristics of English architecture, though but a negative one, is the almost total absence of any municipal buildings during the whole period of the middle ages. The Guildhall of London is a late specimen, and even insignificant, considering the importance of the city. There are also some corporation buildings at Bristol, and one or two unimportant town-halls in other cities; but there we stop. Nothing can more vividly express how completely the country was Frenchified by the result of the Battle of Hastings, than this absence of municipal architecture. Till a very recent period the king, the baron, and the bishop, were the estates of the realm. The people were nowhere, and neither municipalities nor guilds could assert an independent existence.

On the other hand, in proportion to her population, England is rich in castles beyond any other country in Europe—especially of the Norman or Round-arched Gothic age. Germany, as already pointed out, has some fine examples of the Hohenstaufen period. France has scarcely any, and neither France nor Germany can match such castles as those of London, Rochester, Norwich, Rising, &c. The Welsh castles of the Edwardian period form an unrivalled group of themselves; and are infinitely superior, both in extent and architectural magnificence, to the much-lauded robber-dens of the Rhine-land; while such castles as Raglan, Chepstow, Kenilworth, Warwick, or Windsor, are for picturesque beauty and elegance of detail quite unmatched, except by one or two ruined strongholds in the north of France. The discussion of their merits, however, would more properly come under the head of military architecture, which is excluded from this work, and cannot therefore be entered on here.

It is difficult, however, to draw the line exactly between the castle and the castellated mansion, the moated grange, and lastly the mansion or manor-house, which, towards the end of the Gothic period had become so numerous in England, and forms so beautiful and so peculiarly English an architectural form.

Taken altogether, there is perhaps no class of buildings to which an Englishman may turn with more pride than the educational establishments which the middle ages have left him. Though in some cases entirely rebuilt and no doubt very much altered, still the colleges of Oxford and Cambridge retain much of their original features, and are unrivalled in their kind. None of them, it is true, are very ancient as we now see them. With the exception of some of the earlier buildings at Merton, the greater number owe their magnificence to the days of Wykeham (ob. 1426) and Waynflete (ob. 1486). It was during the reign of Henry VI. (1422–1470) that the great impulse was given, not only within the limits of the Universities, but

by the foundation of Eton and Winchester and other great schools, all which belong to the 15th century. But the building of Gothic or quasi-Gothic educational establishments was continued till the death of queen Elizabeth (1602).



600. Plan of Westminster Hall. Scale 100 ft. to 1 in.

In most respects, these colleges resembled the monastic establishments which, to a certain extent, they may be considered as superseding. The principal difference was that the church became subdued into a chapel. In all these establishments, whether palaces or colleges, castles or manor-houses, the principal apartment was the hall, in some cases subordinate to the chapel only. It was on the halls that the architects lavished their art, and, generally speaking, these alone are entitled to be considered as architectural features. Even now there are in England at least a hundred of these halls, either entire and in use, or sufficiently perfect to render their restoration easy. All have deeply and beautifully framed roofs of timber. In this respect they stand alone, no wooden roofs on the Continent being comparable with them.

Among them the largest and grandest is, as it ought to be, the hall of the King's Palace at Westminster, as rebuilt by Richard II. Internally it is 239 ft. long by 68 ft. in width, covering about 23,000 superficial feet. The hall at Padua is larger, and so may some others be, but none have a roof at all approaching this either in beauty of design or mechanical cleverness of execution. In this respect it stands quite alone and unrivalled, and, with the smaller roof of St. Stephen's chapel adjoining, seems to have formed the type on which most of the subsequent roofs were framed.

601. Section of Westminster Hall. Scale 50 ft. to 1 in.

The roof of the hall at Eltham (woodcut No. 602), which belongs to the reign of Henry IV., is inferior both in dimensions and design to that at Westminster, but still displays clearly the characteristics of the style. It would have been better if the trusses had sprung from a line level with the cills of the windows,

and if the arched frame had been less flat; but that was the tendency of the age, which soon became so exaggerated as to destroy constructive proportion.

602. Hall of Palace at Eltham.

We are not able to trace the gradual steps by which the hammer-beam truss was perfected, but we can follow it from the date of the hall at Westminster (1397), to Wolsey's halls at Hampton Court and Oxford, till it passed into the Jacobian abominations of Lambeth or the Inner Temple. Among all these, that of Kenilworth, though small (86 ft. × 43 ft.), must have been one of the most beautiful. It belongs to an age when the style adopted for halls had reached its acmé of perfection (middle of 15th century), when the details of carpentry had been mastered, but before there was any tendency to tame the deep framing down to the flatness of a ceiling. The wooden roofs of churches were generally flatter and less deeply framed than those of the halls, which may have arisen from their being smaller in span, and being placed over clerestories with little abutment to resist a thrust; but, whether from this or any other cause, they are generally less beautiful.

There are few features of mediæval art in this country to which attention could be more profitably directed than the roof; for, whether applied

to secular or ecclesiastical buildings, the framed and carved wooden roof is essentially English in execution and application, and is one of the most beautiful and appropriate manifestations of our national art.

Did space admit of it, it would be easy to extend these remarks, and in so doing to explain and prove a great deal which in the previous pages it has been necessary to advance as mere assertion. The subject is, in fact, practically inexhaustible; as will be easily understood when it is remembered that for more than five centuries all the best intellects of the nation were more or less directed towards perfecting this great art. Priests and laymen worked with masons, painters, and sculptors: and all were bent on producing the best possible building, and improving every part and every detail, till the amount of thought and contrivance accumulated in any single great structure is almost incomprehensible. If any one man were to devote a lifetime to the study of one of our great cathedrals—assuming it to be complete in all its mediæval arrangements—it is questionable whether he would master all its details, and fathom all the reasonings and experiments which led to the glorious result before him. And when we consider that not in the great cities alone, but in every convent and every parish, thoughtful professional men were trying to excel what had been done and was doing, by their predecessors and their fellows, we shall understand what an amount of thought is built into the walls of our churches, castles, colleges, and dwelling-houses. If anyone thinks he can master and reproduce all this, he can hardly fail to be mistaken. My own impression is that not one-tenth part of it has been reproduced in all the works written on the subject up to this day, and much of it is probably lost and never again to be recovered by any means we are aware of.

COMPARATIVE TABLE OF ENGLISH CATHEDRALS.[1]

	Area.	Length inside.	Western Towers.	Central Towers.	Height of Nave.	Height of Choir.	Width of Nave.	Width of Choir.	Width of Central Aisle.	Approximate ratio of Height to Width.
	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	
York . . .	72,860	486	196	198	93	101	106	102	51	1 to 2
Lincoln . .	66,900	468	206	258	82	71	80	81	39	1 2
Winchester .	64,200	530	..	140	76	..	85	..	35	1 2·43
Westminster	61,729	505	220	..	103	..	75	..	35	1 3
Ely . . .	61,700	517	215	170	72	70	75	..	34	1 2·1
Canterbury .	56,280	514	152	229	80	70	73	85	33	1 2·4
Salisbury .	55,830	450	..	404	84	..	82	..	35	1 2·3
Durham . .	55,700	473	164	216	74	..	81	77	32	1 2·3
Peterborough	50,516	426	154	143	78	..	79	..	36	1 2
Wells . .	40,680	388	125	165	67	..	69	..	34	1 2
Norwich . .	40,572	408	..	309	73	..	70	..	26	1 2·8
Worcester .	38,980	387	..	191	66	..	78	..	32	1 2·45
Exeter . .	35,370	383	..	..	70	..	72	..	34	1 2·1
Lichfield .	33,930	319	192	252	55	..	66	..	28	1 2

[1] It is not pretended that this Table is quite correct in all details, but it is sufficiently so to present, at a glance, a comparative view of the 14 principal churches of England, and to show at least their relative dimensions.

CHAPTER III.

ARCHITECTURE OF SCOTLAND.

CONTENTS.

Affinities of Style — Early Specimens — Cathedral of Glasgow — Elgin — Melrose — Other Churches — Monasteries.

CHRONOLOGY.

		DATES.			DATES.
Malcolm Canmore.	Accession	A.D. 1057	David II.	Accession	A.D. 1329
David I.	„	1124	Robert II., Stuart	„	1371
William the Lion	„	1165	James I.	„	1406
John Baliol	„	1292	Mary Queen of Scots	„	1542
Robert Bruce	„	1306			

There are few countries in the world in respect to whose architecture it is so difficult to write anything like a connected narrative as it is regarding that of Scotland. The difficulty does not arise from the paucity of examples, or from their not having been sufficiently examined or edited, but from the circumstance of the art not being indigenous. No one who knows anything of the ethnography of art would suspect the people who now inhabit the lowlands of Scotland of inventing any form of architecture, or of feeling much sympathy with it when introduced from abroad. It may have been that the Celtic element was more predominant in the country during the middle ages, and that the Teutonic race only came to the surface with the Reformation, when they showed their national characteristic in their readiness to destroy what they could not build. If this were not so, it must have been that their priests were strangers, who brought their arts with them and practised them for their own satisfaction, in despite of the feelings of their flocks.

Briefly, the outline of Scotland's architectural story seems to be this. Till the time of the wars of the Edwards, the boundary line between the styles on either side of the border cannot be very clearly defined. In Scotland the forms were ruder and bolder than in the South, but were still the same in all essential respects.

After the days of Wallace and of Bruce, hatred of the English threw the Scotch into the arms of France. Instead of the Perpendicular style of the South, we find an increasing tendency to copy the Flamboyant and other contemporary styles of France, till at last, just as the style was expiring, both churches and mansions are almost

literal copies of French designs. But, in addition to these, an Irish element is strongly felt: at Iona and throughout the West, extending —in exceptional cases—to the East, as at Brechin and Abernethy. It can also be traced in the Lothians in the chapels and smaller edifices of the 11th and 12th centuries, and seems to be the ingredient which distinguishes the early Round-arched Gothic of Scotland from the Norman of England. Besides these three, a Scandinavian element makes itself felt in the Orkneys, and as far south as Morayshire; and even Spain is said to have contributed the design to Roslyn Chapel, and made her influence felt elsewhere.

All these foreign elements, imported into a country where a great mass of the people belonged to an art-hating race, tended to produce an entanglement of history very difficult to unravel. With leisure and space, however, it might be accomplished; and, if properly completed, would form a singularly interesting illustration, not only of the ethnography of Scotland, but of art in general.

The buildings of David I. (1124–1165) gave an immense impulse to the Round-arched style, which continued for nearly a century after his time, and long after the pointed arch had been currently used in the South. It is true we find pointed arches mixed up with it, as at Jedburgh, but the pillars and capitals are those of the earlier orders; and the circular arch continued to be used from predilection wherever the constructive necessities of the building did not suggest the employment of the pointed form.

The feature of English art which the Scotch seem to have best appreciated was the lancet window, which suited their simple style so completely that they clung to it long after its use had been abandoned in England. This circumstance has given rise to much confusion in the dates of Scottish buildings, antiquaries being unwilling to believe that the lancet windows of Elgin and other churches really belong to the middle of the 14th century, after England had passed through the phases of circle and flowing tracery, and was settling down to the sober constructiveness of the perpendicular.

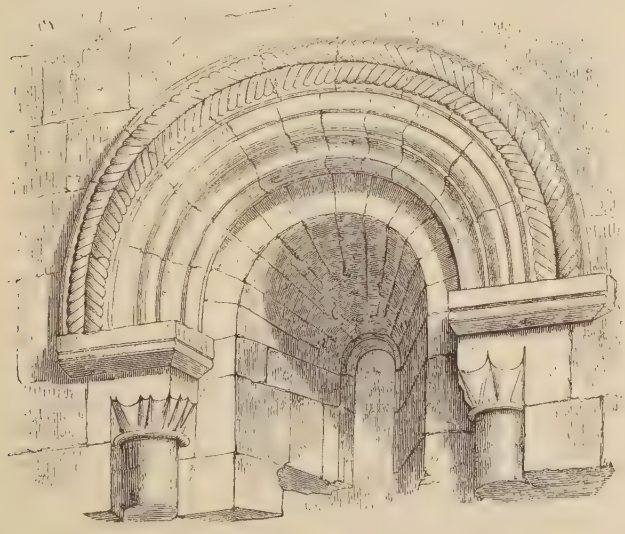
Circle tracery is, in fact, very little known in the North, and English flowing tracery hardly to be found in all Scotland. It is true that a class of flowing tracery occurs everywhere in Scotland, but it is, both in form and age, much more closely allied to French flamboyant than to anything English. It was used currently during the whole period between the 2nd and 3rd Richards, and even during the Tudor period of England.

The one great exception to what has been said is the east window of the border monastery of Melrose; but even here it is not English perpendicular, but an original mode of treating an English idea, found only in this one instance, and mixed up with the flowing tracery of the period.

Of Tudor architecture there is no trace in Scotland; neither the four-centred low arch nor fan-vaulting are to be found there, nor that peculiar class of perpendicular tracery which distinguished the 16th and 17th centuries in the South. At that period the Scotch still adhered to their flamboyant style, and such attempts as they did make at perpendicular work were so clumsy and unconstructive that it is little wonder that, like the French, they soon abandoned it.

In so poor and thinly populated a country as Scotland was in the 11th century, it would be in vain to look for any of the great ecclesiastical establishments that are found in the South. The churches seem at this age to have been cells or small chapels, such as that at Leuchars or Dalmeny, closely resembling St. Clement's church at Trondhjem, and a little larger than the contemporary edifices so frequently found in Ireland.

Leuchars is perhaps the most characteristic and beautiful specimen of its class, of which, like the contemporary chapel at Cashel, which it much resembles, it may be considered as the type. Its details are not only rich, but, as may be seen from the woodcut, bold and elegant at the same time. Both internally and externally, the ornament is



603. Window, Leuchars. From a Drawing by R. W. Billings.[1]

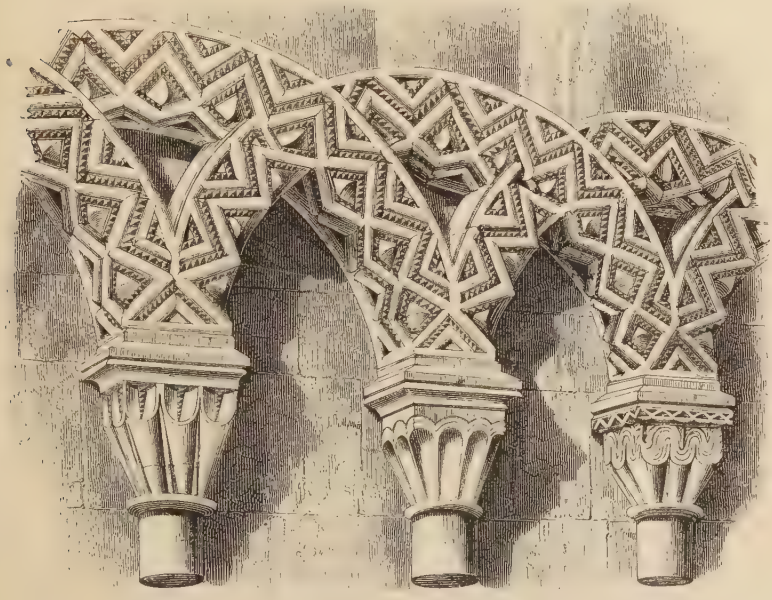
[1] The illustrations in this chapter being taken from the beautiful work by R. W. Billings, entitled 'The Baronial and Ecclesiastical Antiquities of Scotland,' the source of each will not be specified, except when it forms an exception to this rule. Mr. Billings' work is certainly the most correct and beautiful that has yet appeared on the subject, and if completed with the necessary plans and architectural details, would be unrivalled as a monograph of an architectural province.

applied in so masterly a manner that the beauty of the art makes up for the smallness of dimensions, and renders it one of the most interesting churches in Scotland.

604. Pier Arch, Jedburgh.

David I. seems to have been the first king who gave an impulse to the monastic establishments and to the building of larger churches. His endowment of the great border abbeys, and his general patronage of the monks, enabled them to undertake buildings on a greatly extended scale. The churches of Jedburgh and Kelso, as we now find them, belong either to the very end of the 12th or beginning of the 13th century. They display all the rude magnificence of the Norman period, used in this instance not experimentally, as was too often the case in England, but as a well-understood style, whose features were fully perfected. So far from striving after novelty, the Scotch architects were looking backwards, and culling the beauties of a long-established style. The great arch under the tower of Kelso is certainly a well-understood example of the pointed-arched architecture of the 13th century, while around it and above it nothing is to be seen but

circular-headed openings, combined generally with the beaded shafts and the foliage of the Early English period. The whole is used with a Doric simplicity and boldness which is very remarkable. Sometimes, it must be confessed, this independence of constraint is carried a little too far, as in the pier-arches at Jedburgh (woodcut No. 604), which are thrown across between the circular pillars without any subordinate shaft or apparent support. This was a favourite trick of the later Gothic architects of Germany, though seldom found at this early period. Here the excessive strength of the arch in great measure excuses it.

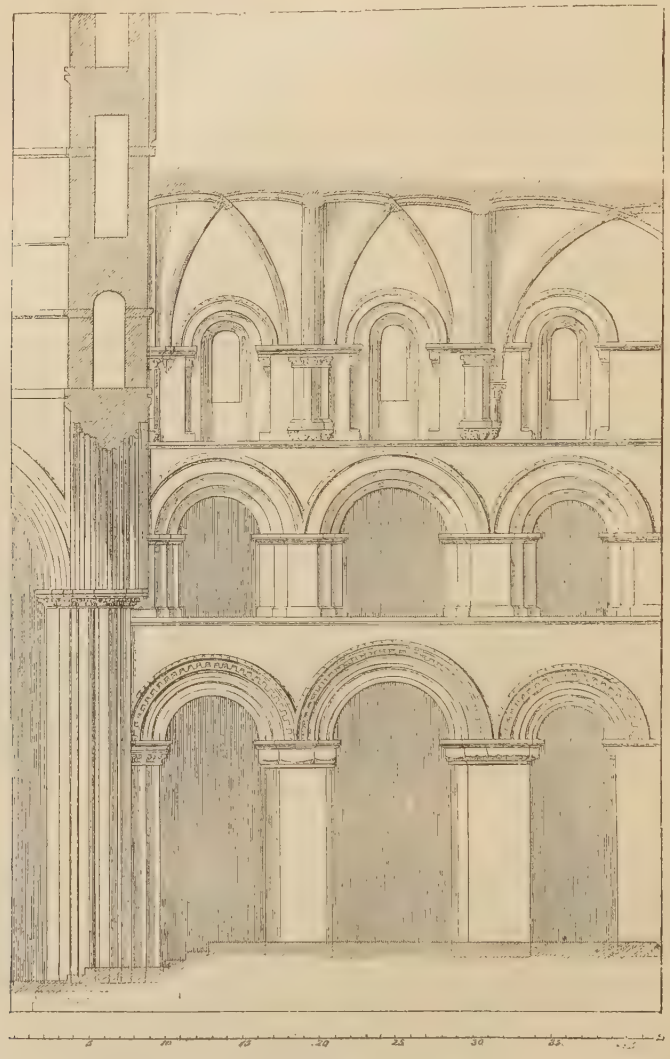


605. Arches in Kelso Abbey.

Besides the general grandeur of their designs, a great deal of the detail of these abbeys is of the richest and best class of the age. The favourite form, as at Leuchars, is that of circular arches intersecting one another so as to form pointed sub-arches, and these are generally ornamented with all the elaborate intricacy of the period, such as is shown in woodcut No. 605, taken from Kelso Abbey Church.

While these great abbeys were being erected in the southern extremity of the kingdom, the cathedral of St. Magnus was founded at the other extremity, at Kirkwall in the Orkneys. This building was commenced 1137, and carried on with vigour for some time. The first three arches of the choir (woodcut No. 606) are all that can certainly be identified as belonging to that period. The arch of the tower belongs probably to the 14th century, and the vaulting can hardly be

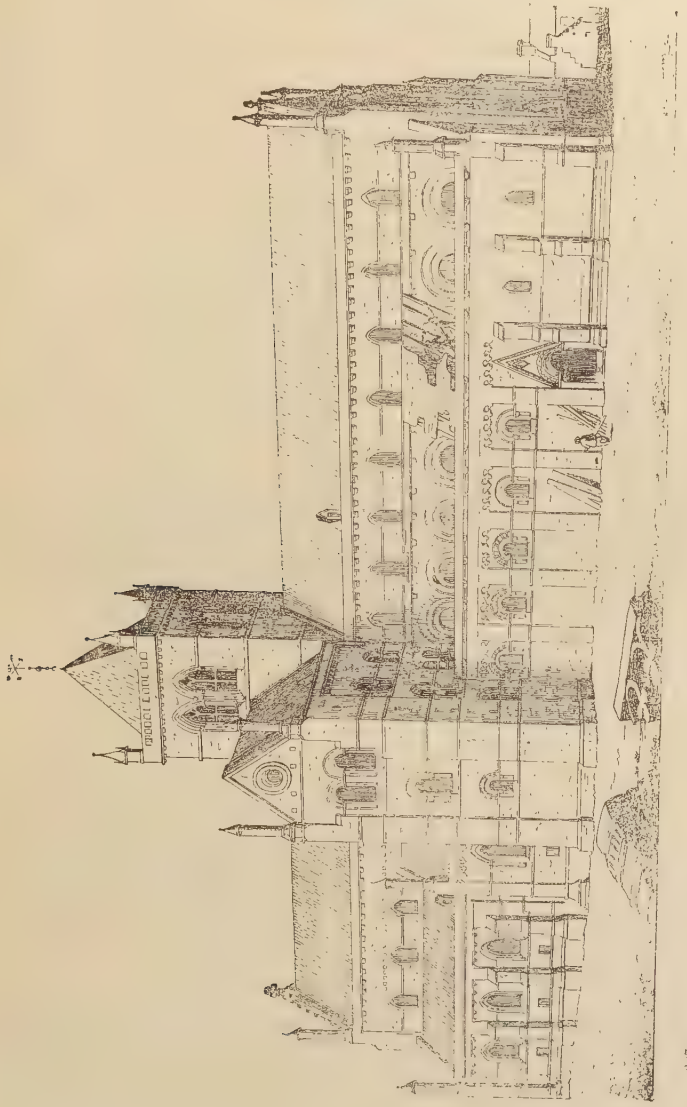
much earlier. The three arches beyond this are still circular, though with mouldings of a late period. It is said that these were not completed till the 16th century.



606. Three Bays of Cathedral at Kirkwall.

Farther south, arches of this late age could not have been built in such an ancient style, but we can believe that in that remote corner the old familiar modes were retained in spite of changing fashions; and the consequence is that, though the building of this cathedral was carried on at intervals during 400 years, it is at first sight singularly

uniform in style, and has all the characteristics of an old Norman building, as may be seen from the woodcut.

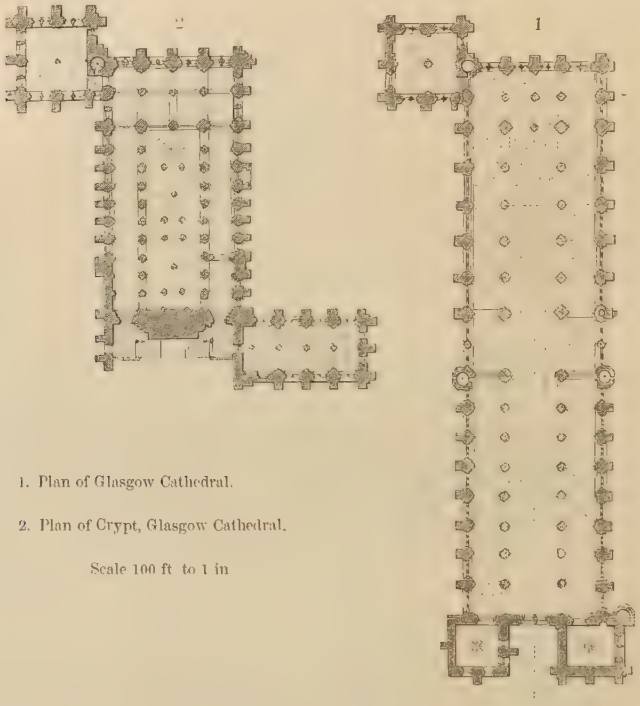


North side of the Cathedral at Kirkwall.

617.

The cathedral of Glasgow (woodcut No. 612) is almost the only other of the great ecclesiastical edifices of Scotland which retains its original features in a nearly perfect state. It is at the same time one of the most satisfactory and characteristic buildings to be found in the country.

The bishopric was founded by David I., but it was not till after several destructions by fire that the present building was commenced, probably about the year 1240. The crypt and the whole of the choir belong to the latter part of the 13th century, the nave to the 14th, the tower and spire to the 15th. The central aisle never having been intended to be vaulted, the architect has been enabled to dispense with all pinnacles, flying buttresses, and such expedients, and thus to give the whole outline a degree of solidity and repose which is extremely beautiful, and accords perfectly with the simple lancet openings which prevail throughout.



1. Plan of Glasgow Cathedral.

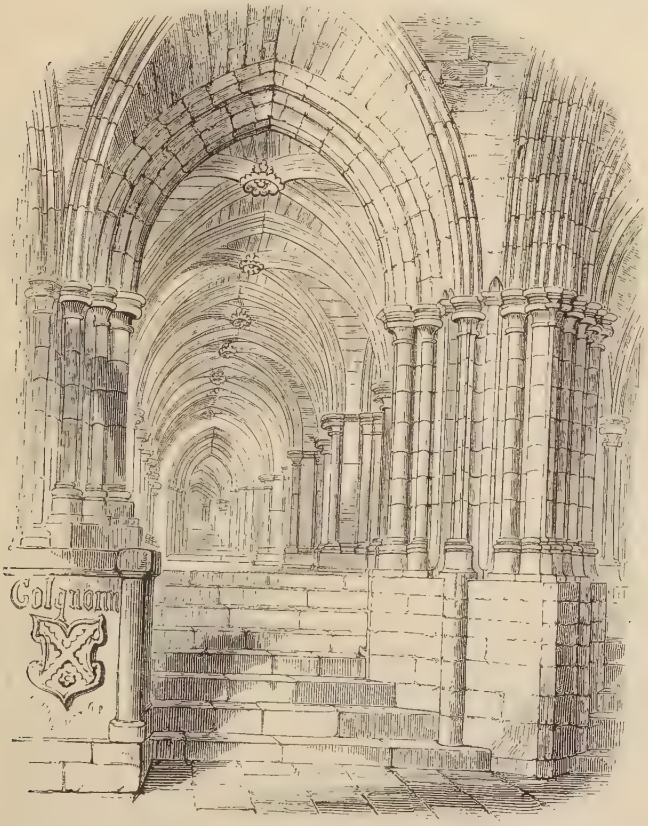
2. Plan of Crypt, Glasgow Cathedral.

Scale 100 ft to 1 in

608. From J Collie s Description of this Church.

The whole length of the building externally, exclusive of the western towers, one of which has recently been pulled down, is 300 feet, the breadth 73, and the area about 26,400 feet, so that it is far from being a large building; but its situation is so good, and its design and proportions so appropriate and satisfactory throughout, that it is more imposing than many others of twice its dimensions. The spire, which is 219 feet in height from the floor of the church, is in perfect proportion to the rest of the building, both in dimension and outline, and aids very much the general effect of the whole.

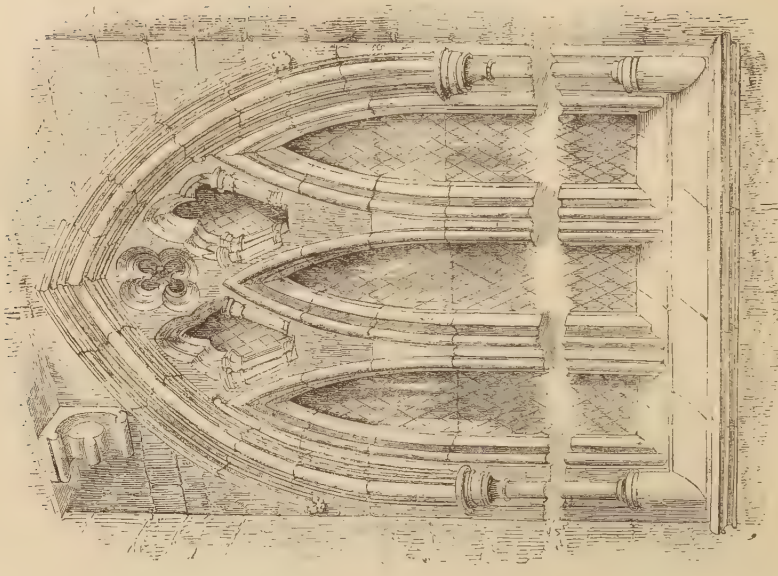
The glory of this cathedral is its crypt, which is unrivalled in Britain, and indeed perhaps in Europe. Almost all the crypts now found in England were built during the Norman period, or very early in the pointed style. That at Glasgow, however, belongs to the perfected style of the 13th century, and as the ground falls rapidly towards the west, the architect was enabled to give it all the height required, and to light it with perfect ease. Here the crypt actually extends under and beyond the whole choir. Had there been



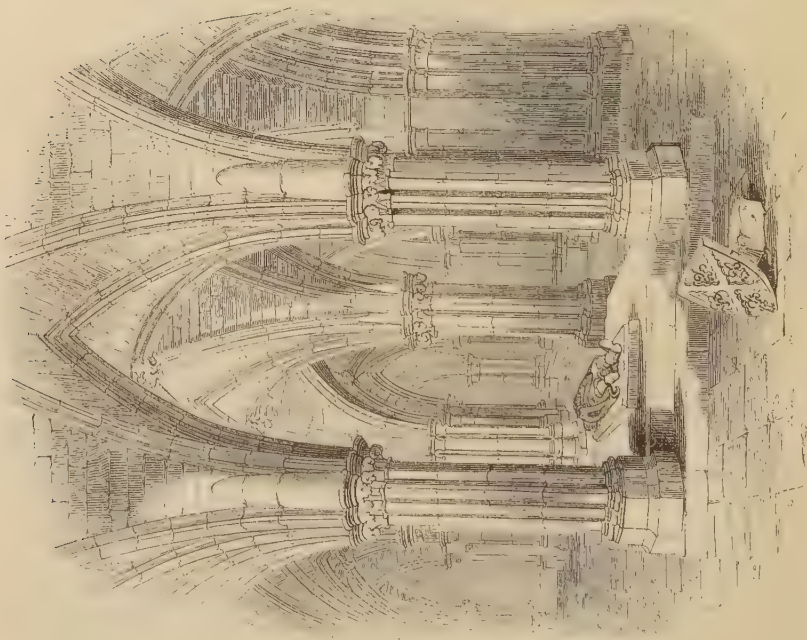
609. View in Crypt of Glasgow Cathedral.

an opening in the centre of the vault (and it is by no means clear that one was not originally intended), it would be more like a German double church than anything found in England. There is a solidity in its architecture, a richness in its vaulting, and a variety of perspective in the spacing of its pillars, which make it one of the most perfect pieces of architecture in these islands.

In the crypt and lower part of the church the windows are gene-

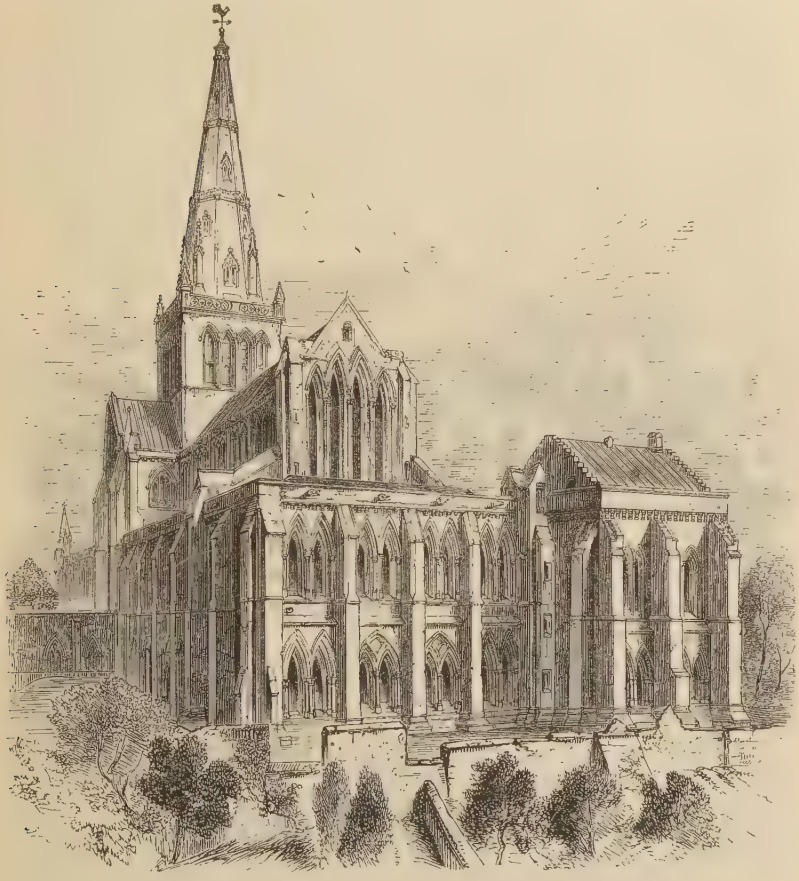


611. Clerestory Window, Glasgow Cathedral.



610. Crypt of Cathedral at Glasgow.

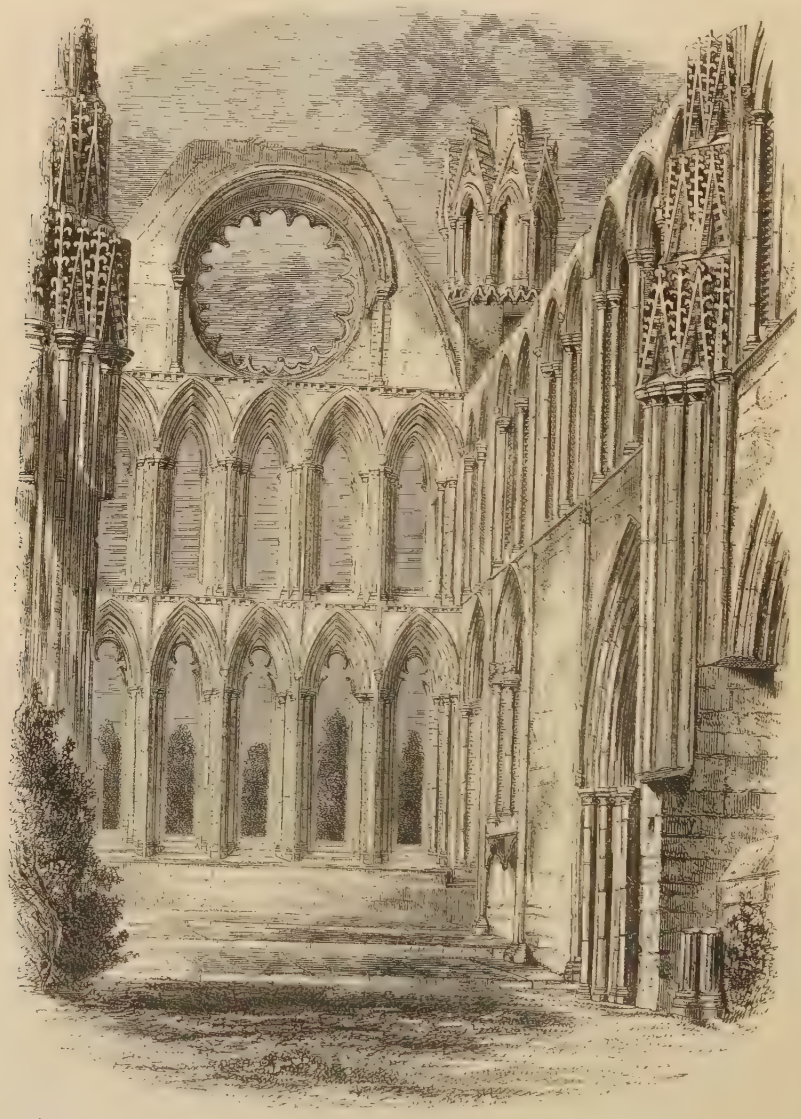
rally single or double lancet, united by an arch. In the clerestory they sometimes take the form of three lancets, united, as shown in woodcut No. 611, by an imperfect kind of tracery, more in accordance with the simplicity of the building than the more complex form prevalent in England at the same period. In the south transept, and some of the later additions, there is tracery of considerable elaboration and beauty of design.



612. East End of Glasgow Cathedral.

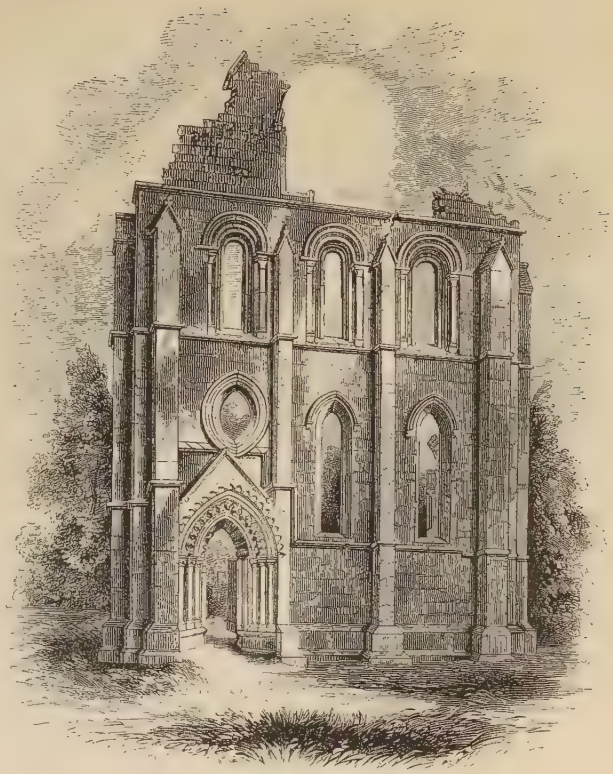
The most beautiful building in Scotland is, or was, the cathedral of Elgin. Its situation in the province of Moray was so remote that it seems to have been comparatively undisturbed by the English wars, and the greater part of the building was erected during the Edwardian period, with all the beautiful details of that age. The seat of the see was removed from Spynie to Elgin in the year 1223, and the cathedral commenced contemporaneously with those of Amiens and Salisbury.

All that now remains of this period is the fragment of the south transept (woodcut No. 614), where we see the round arch reappearing over the pointed, at a period when its use was entirely discontinued in the

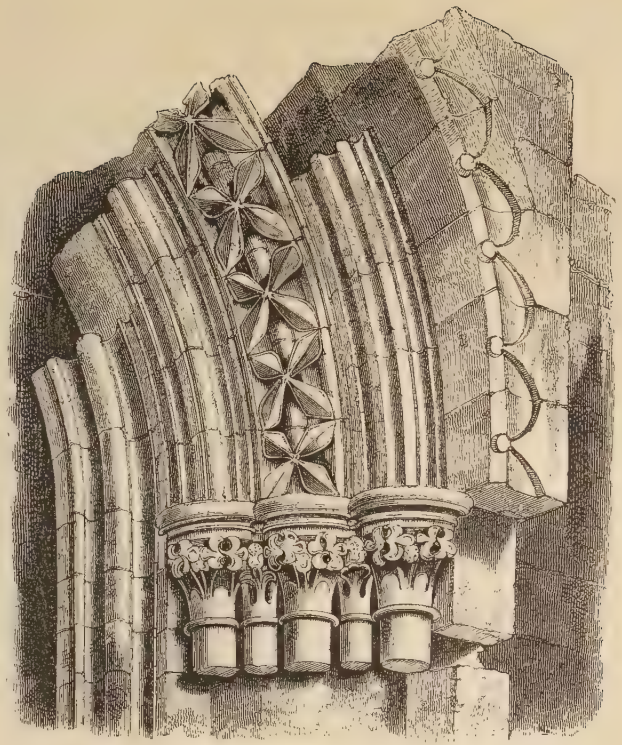


613. East End, Elgin Cathedral.

South. At the same time the details of the doorway (woodcut No. 615) show that in other respects the style was at that period as far advanced as in England. The cathedral was burnt down in 1270, and again partially in 1390. The choir and other parts which still remain were

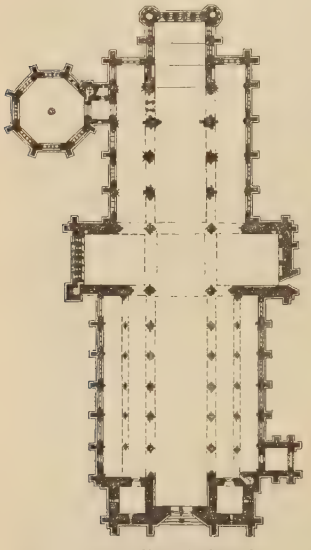


614. South Transept, Elgin Cathedral.



615. Ornament of Doorway, Elgin

built subsequently to the first conflagration, and escaped the second. These parts appear at first sight to belong to the lancet style of the previous century, but used with the details and tracery of the Edwardian period, and with a degree of beauty hardly surpassed anywhere. As compared with English cathedrals, that at Elgin must be considered as a small church, being only 253 ft. in length internally, and 82 wide across the 5 aisles of the nave. It is very beautifully arranged, and on the whole is perhaps more elegant in plan than any of the Southern examples. As a mechanical design, its worst fault is that the piers supporting the central tower want strength and accentuation. As will be seen from the plan, an attempt was made to throw the weight of the tower on the transept walls, which are built solid for this purpose; but this was artistically a mistake, while mechanically it caused the destruction of the tower at the beginning of the last century. The choir (see woodcut No. 613), is terminated by what is virtually a great east window, but with piers between the compartments instead of mullions. As an architectural object this is a far more stable and appropriate design than a great mullioned window like that of York and others in England. But the latter must be judged of as frames for glass pictures, which Elgin is by no means so well suited to display. Its details, however, are exquisite, and the whole design very rich and beautiful.



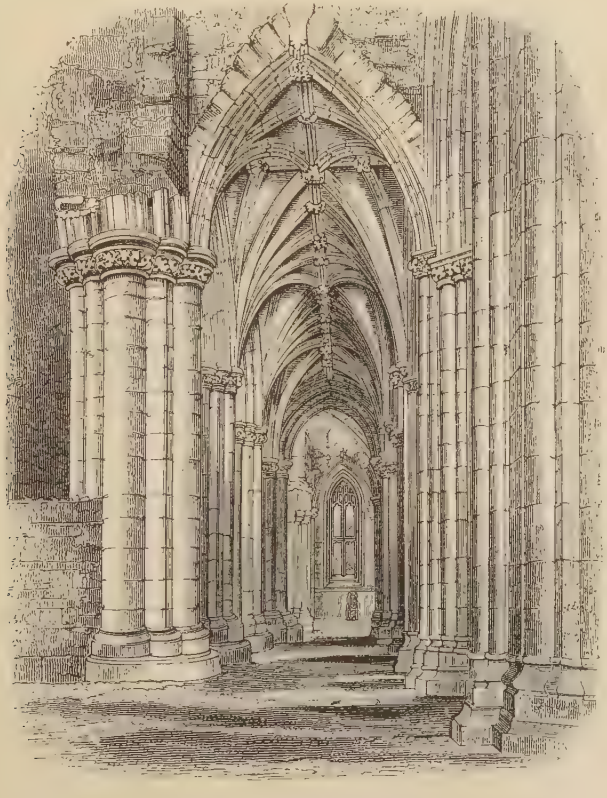
616 Plan of Elgin Cathedral. Scale 100 ft. to 1 in.

The north and south aisles of the nave and the chapter-house were rebuilt after the last destruction, and belong to the 15th century. These parts, though very charming, display generally the faults of the Scotch flamboyant style, and show a certain amount of heaviness and clumsiness mixed with the flowing and unconstructive lines of this class of tracery, which nothing can redeem but the grace and elegance with which the French always used it.

Next in beauty to Elgin Cathedral is the well known abbey at Melrose. This, though founded contemporaneously with Jedburgh and Kelso, was entirely rebuilt during the Lancastrian period, and, owing to its situation near the border, shows much more affinity to the English style than the building last described. The nave, as may be seen from the view of its aisle (woodcut No. 617), is of a bold, solid style of architecture, with a vault of considerable richness. The window of the

south transept is the most elegant specimen of flowing tracery to be found in Scotland, and its great east window (woodcut No. 618), as before remarked, is almost the only example of the perpendicular style in the North, and is equal to anything of the kind on this side of the Tweed.

Few of the architectural antiquities of Scotland are so well known, or have been so much admired, as the chapel at Roslyn (woodcut No. 619), which William St. Clair caused to be erected in the year 1446. For this purpose he did not employ his countrymen, but "brought artificers from other regions and forraigne kingdomes,"[1] and employed them to erect a building very unlike anything else to be found in Great Britain.

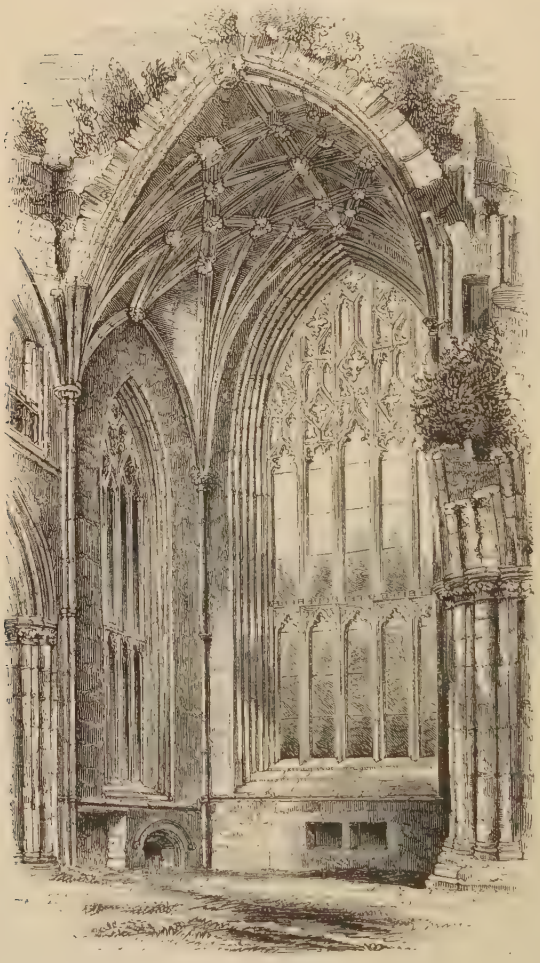


617. Aisle in Melrose Abbey.

Our present knowledge of styles enables us to pronounce with little doubt that his architects came from the Spanish peninsula. In fact, there is no detail or ornament in the whole building which may not be traced back to Burgos or Belem; though there is a certain clumsi-

[1] Britton's 'Architectural Antiquities,' vol. xiv. p. 81.

ness both in the carving and construction that betrays the workmanship of persons not too familiar with the task that they were employed upon. The building, however, thus perhaps exhibits the greatest affinity of detail to the chapel at Belem on the Tagus, opposite Lisbon (woodcut No. 702). Nothing, in fact, can well be more similar than the two are. That at Roslyn is the oldest, having been commenced in 1446. Belem, begun in 1498, was finished apparently in 1511, at which date the Scottish example hardly appears to have been complete. Roslyn chapel is small, only 68 ft. by 35 ft., internally. The central aisle is but 15 ft. wide, and has the southern peculiarity of a tunnel-vault with only transverse ribs; such as is found at Fontifroide (woodcut No. 292), and in almost all the old churches of the south of France. The ornaments between these, which were painted in the earlier examples, are at Roslyn carved in relief. The vault, as in the south, is a true roof, the covering slabs being laid directly on the extrados or outside of it, without the intervention of any wood-work, a circumstance to which the chapel owes its preservation to the present day. Beyond the upper chapel is a sub-chapel (woodcut No. 620), displaying the same mode of vaulting in a simpler form, but equally foreign and unlike the usual form of vaults in Scotland.



618. East Window, Melrose.

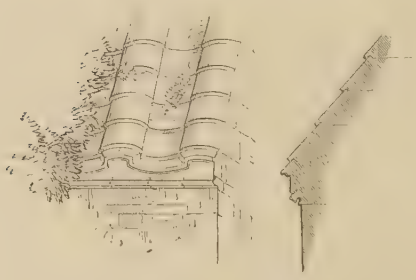
Another very interesting chapel of the same class is that now used

619. Chapel at Roslyn.

620. Under Chapel, Roslyn.

as the church at Bothwell, near Glasgow. Like Roslyn, it has the peculiarity unknown in England, though common in the South of France, of a tunnel-vault with a stone roof resting directly upon it. It is not large, measuring only 53 feet by 22, internally. The beauty of its details, however—late in the 14th century—and the simplicity of its outline, combined with the solidity of its stone roof, impart to the whole an air of grandeur far greater than its dimensions would justify. Had it been constructed with a timber roof, as usual in churches of its date, it would hardly be considered remarkable, but it is redeemed both internally and externally by its stone roof. As will be seen from woodcut No. 622, the arrangement of the stones forming the roof is very elegant, and gave rise to a form of battlement frequently found afterwards in Scotland, though generally used only as an ornament.[1]

621. Stone Roof of Bothwell Church From a Drawing by J. Honeyman, jun.

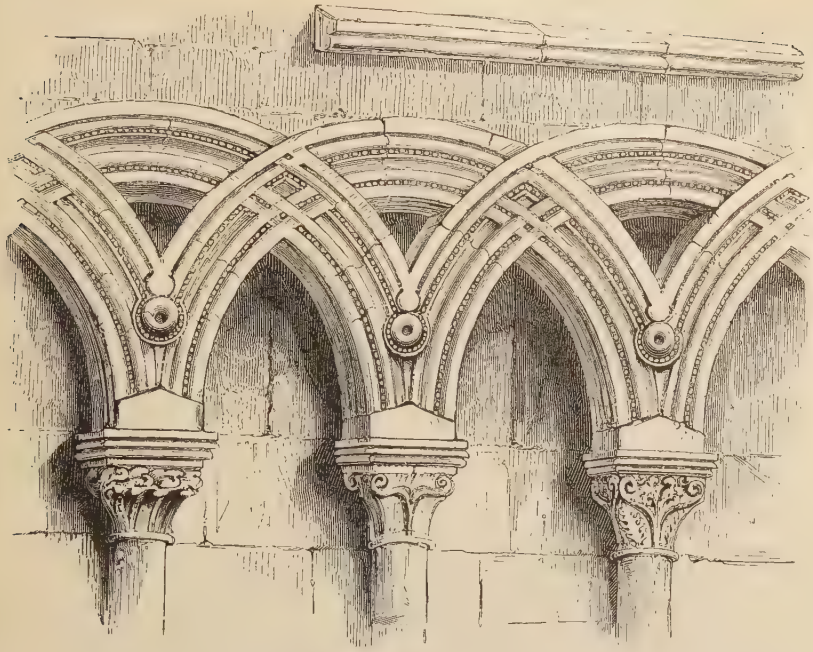


622. Exterior of Roof of Bothwell Church.

The chapel attached to the palace at Holyrood is of a very different character from that at Roslyn; being infinitely more beautiful, though not nearly so curious. The building was originally founded by David I. in 1128, but what now remains belongs to the latter end of the 13th or beginning of the 14th century, and has all the elegance of the Edwardian style joined to a massiveness which in England would indicate a far earlier period. Some of its details (as that shown, woodcut No. 623) are of a beautiful transitional character, though not so early as might be suspected, and others (such as woodcut No. 624) have the rich but foreign aspect that generally characterises the architecture of Scotland.

The nave of the cathedral of Aberdeen is still sufficiently entire to be used as a church, and with its twin western spires of bold castellated

[1] For the drawings and information regarding Bothwell Church, I am indebted to Mr. John Honeyman, jun., architect, of Glasgow.



623. Ornamental Arcade from Holyrood

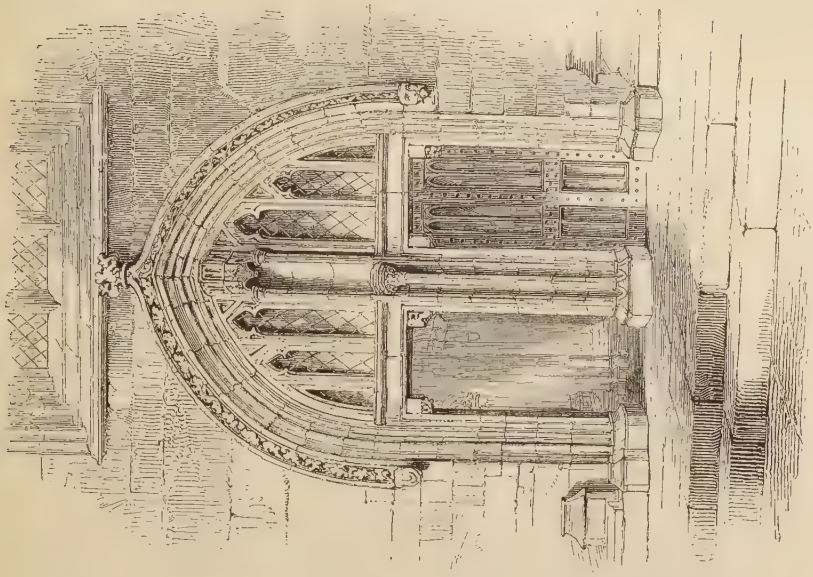
624. Ornamental Arcade from Holyrood.

design is an impressive building; but it has a character of overheaviness arising from the material used being granite, which did not admit of any of the lighter graces of Gothic art.

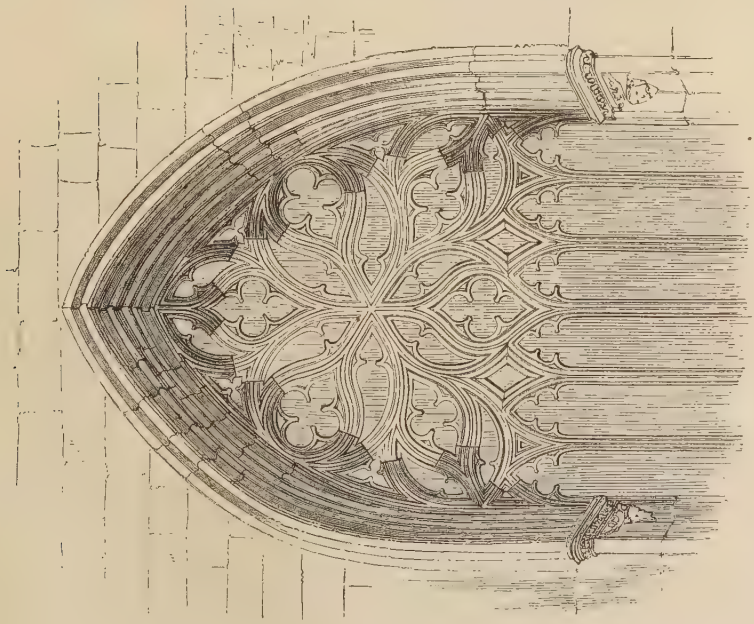
The cathedral of St. Andrew's must at one time have been one of the most beautiful in Scotland, but fragments only of its east and west ends now remain. They suffice to show that it was of considerable dimensions, and inferior, perhaps, only to Elgin and Melrose in beauty of detail.

625. Interior of Porch, Dunfermline.

Besides these there are in Scotland many ruined monastic establishments, all evincing more or less beauty of design and detail. One of the most remarkable of these is Dunfermline, whose nave is of a bold, round-arched style, very like what Durham Cathedral would have been had it been intended (as this was) for a wooden roof. The other parts display that intermixture of styles so usual in monastic buildings; bold billeted arches, as in woodcut No. 625, being surmounted by vaults of a much later date. But Scotch vaulting was in general so mas-



627. Doorway, Linlithgow.



626. Window at Dunkeld (restored).

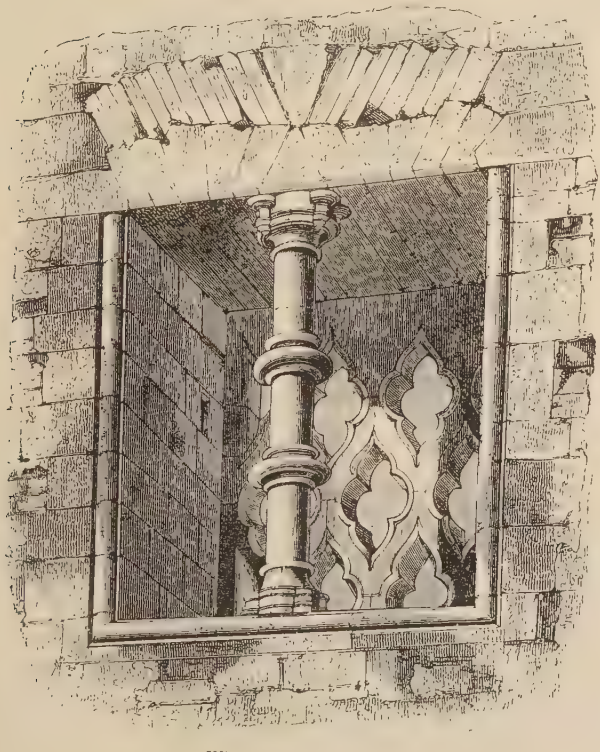
sive and rich that it requires the eye of an archæologist to detect a difference that is never offensive to the true artist. Among the remaining specimens are Dumblane, Aberbrothock, Arbroath, and Dunkeld, a window of which (woodcut No. 626) is a fine specimen of the Scotch flamboyant, identical in design with one still existing in Linlithgow parish church, and very similar to many found elsewhere. The west doorway in the last-named church is a pleasing specimen of the half Continental[1] manner in which that feature was usually treated in Scotland.

628. Doorway, St. Giles's, Edinburgh.

It has already been hinted that the Scotch unwillingly abandoned the circular archway, especially as a decorative feature, and that they indeed retain it occasionally throughout the whole of the middle ages, though with the details of the period. The doorway illustrated in woodcut No. 628, from Saint Giles's, Edinburgh, is a fine specimen of this mode of treatment, and so is the next illustration, from Pluscardine Abbey. Similar doorways occur at Melrose and elsewhere. For canopies of tombs and such like purposes, the circular arch is almost as common as the pointed. Other examples are found at Iona, though there the buildings are nearly as exceptional and Continental in design as Roslyn itself—the circular pier-arch is used with the mouldings of the 13th century, and the pointed arch is placed on a capital of intertwined dragons, more worthy

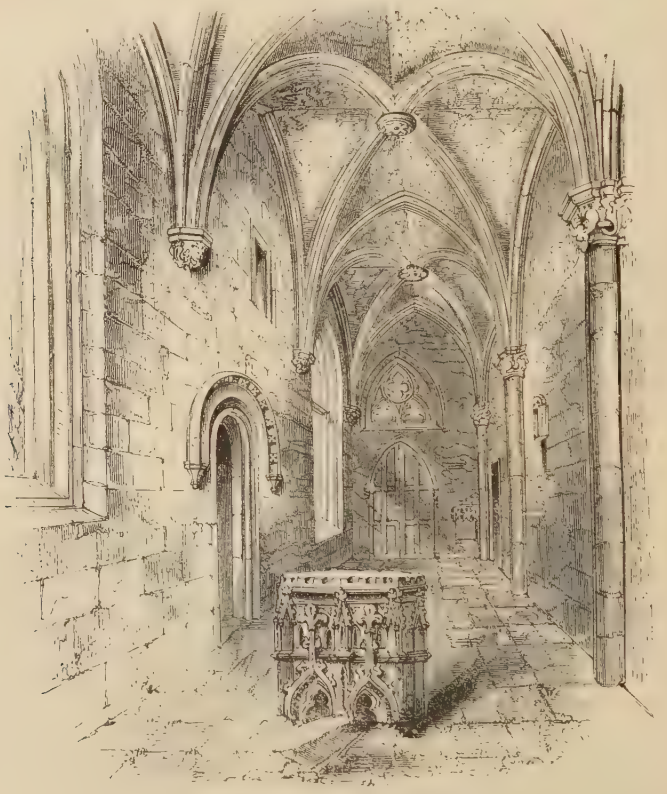
[1] The same class of tracery is found in the Lamberti Kirche at Munster, and generally in Westphalia; some specimens being almost absolutely identical with the Scotch examples.

629 Doorway, Pluscardine Abbey.



630. Window in Tower, Iona.

of a Runic cross or tombstone than a Gothic edifice. The tower windows are filled with quatrefoil tracery (woodcut No. 630), in a manner very unusual, and a mode of construction is adopted which does not perhaps exist anywhere else in Britain. The whole group, in fact, is as exceptional as its situation, and as remote from the usual modes of architecture on the mainland.



631. Aisle in Trinity Church, Edinburgh.

The early Scotch vaults, as already mentioned, were singularly bold and massive, and all their mouldings were characterised by strength and vigour, as shown in the examples taken from Glasgow and Dunfermline (woodcuts Nos. 610, 625). At a later period, however, when the English were using perpendicular tracery, and when the invention of fan-vaulting was beginning to be introduced, the Scotch, with the flamboyant tracery of the French, adopted also their weak and unconstructive modes of vaulting. It is not uncommon to find as poor a vault as that of the lately destroyed Trinity College Church, Edinburgh (woodcut No. 631), erected contemporaneously with the elaborate vaulting of the royal chapels in England; and not only in this but in every

other respect it is to the Continent, and not to their nearest neighbours, that we must at this late period look for analogies with the architecture of the Scotch.

Scotland is, generally speaking, very deficient in objects of civil or domestic architecture belonging to the middle ages. Of her palaces, Holyrood was almost rebuilt in the reign of Charles I., and Edinburgh Castle entirely remodelled. Stirling still retains some fragments of ancient art, and Falkland seems on the verge of the Renaissance. Linlithgow perhaps alone remains in its original state, a fine specimen of a fortified palace, with bold flanking towers externally, and a noble court-yard in the centre.

There are, besides these, numberless square towers and fortalices scattered over the country, which were the residences of the turbulent barons of Scotland during the middle ages: but none of these can properly be called objects of architecture.

The baronial edifices of the succeeding age give the impression of belonging to an earlier style, retained in this wild country long after it had been laid aside elsewhere. They are as remarkable as any class of buildings erected after the middle ages, both for originality and picturesqueness. But they were, with scarcely an exception, built after the accession of Elizabeth to the throne of England, and all, when closely examined, display features belonging to the Renaissance style. Their description would therefore be more appropriate in a subsequent volume than in a chapter devoted to the Gothic architecture of Scotland.

CHAPTER IV.

IRELAND.

CONTENTS.

Oratories — Round Towers — Domical Dwellings — Domestic Architecture — Decorations.

THE history of architecture in Ireland forms as distinct a contrast to that of Scotland as it is possible to conceive. At a very early period the Irish showed themselves not only capable of inventing a style for themselves, but perfectly competent to carry it to a successful issue, had an opportunity ever been afforded them. But this has not yet happened. Before the English conquest (1169) the country seems to have been divided into a number of small states, whose chieftains occupied the scant leisure left them between the incursions of the Danes and other Northmen, in little wars among themselves. These were never of such importance as to yield glory to either party, though amply sufficient to retard the increase of population and to banish that peace and sense of security which are indispensable for the cultivation of the softer arts. Yet during that period the Irish built round towers and oratories of a beauty of form and with an elegance of detail that charms even at the present day. Their metal work showed a true appreciation of the nature of the material, and an artistic feeling equal in kind, if not in degree, to anything in the best ages of Greece or Italy; and their manuscripts and paintings exhibit an amount of taste which was evidently capable of anything.

After the conquest, the English introduced their own pointed architecture, and built two churches in Dublin which, in dimensions and detail, differ very little from English parish churches. But beyond the Pale their influence was hardly felt. Whatever was done was stamped with a character so distinctly Irish as to show how strong the feeling of the people was; and sufficient to prove, with our knowledge of their antecedents, how earnestly and how successfully they would have laboured in the field of art had circumstances been favourable to its development. For seven centuries, however, the two races have lived together, hating and hated, and neither capable of comprehending the motives or appreciating the feelings of the other. It was not that the Saxon was tyrannical or unjust, but that he was prosaic among

a people whose imagination too often supplied the place of reason, and that he was strong among those who could not combine for any steady purpose. His real crime was that, like the leopard, he could not change his spots. He belonged to a different race, and the Irish have always chosen to cherish the idea of vengeance and suffer the derangement consequent on it, rather than enjoy peace and prosperity under those they hated. Art is a plant too tender to flourish in the garden of hatred, and it has consequently been long banished from Irish soil, though, under gentler influences, it is probable that it might be more easily revived and more successfully cultivated there than in any other part of the British Isles.

Whatever may be the fate of art in Ireland for the future, the history of the past is sufficiently discouraging.

The cathedral of Dublin must always have been a second-class edifice for a metropolitan church, and those of Cashel and Kildare, which are as celebrated and as important as any in Ireland, are neither so large nor so richly ornamented as many English parish churches. The cathedral of Lismore has entirely disappeared; and generally it may be asserted that, throughout the country, there is not one cathedral church remarkable for architectural beauty or magnificence, though many are interesting from their associations, and picturesque from the state of ivy-clad ruin in which they appear.

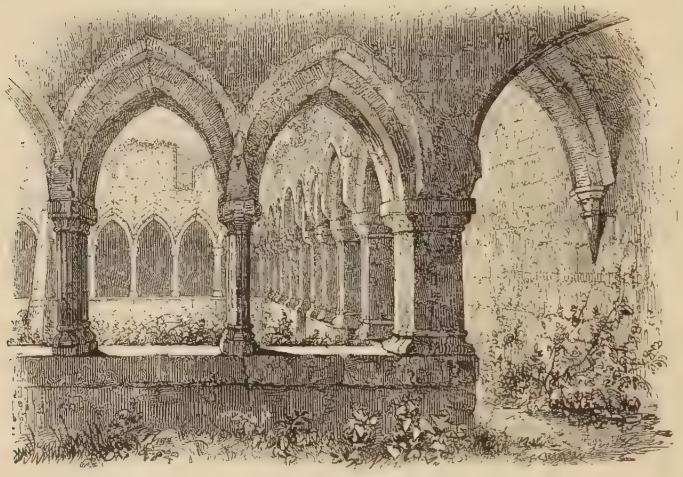
The same is true with regard to the monasteries—they are numerous; and many, though small, are rich in detail. One of the most elaborate is that of the Holy Cross near Cashel, erected in the 15th century. This, like every other building of the Gothic period in Ireland, shows a strong affinity to the styles of the Continent, and a clearly marked difference from those of this country.

Some of the monasteries still retain their cloisters, which, in all instances, have so foreign an aspect as to be quite startling. That at Muckross (Killarney) retains the round arch on two sides with the details of the 15th century. That at Kilconnel (woodcut No. 632)[1] looks more like a cloister in Sicily or Spain than anything in the British islands. None of them seem large. The last-named is only 48 ft. square, though, if more extensive, it would be out of place compared with the rest of the establishment.

There is scarcely a single parish church of any importance which was built in Ireland beyond the limits of the Pale during the middle ages, nor, indeed, could it be expected that there should be. The parochial system is singularly unsuited to the Celtic mind at all times, and, during the Gothic period, the state of Ireland was especially unfavourable to its development, even if any desire for it had

[1] The woodcuts in this chapter are, with one exception, borrowed from Wilkinson's 'Ancient Architecture and Geology of Ireland.'

existed. What the Celt desiderates is a hierarchy who will take the trouble of his spiritual cares off his hands, and a retreat to which he can retire for repose when the excitement of imagination no longer suffices to supply his daily intellectual wants. These may lead to a considerable development of cathedral and monastic establishments, but not to that self-governing parish system which is so congenial to the Saxon mind.



632. Cloister, Kilconnel Abbey.

View it as we will, the study of Gothic architecture in Ireland is a melancholy one, and only too truly confirms what we know from other sources. It does not even help us to answer the question whether or not Ireland could successfully have governed herself if left alone. All it does tell us is that, from the accidental juxtaposition of two antagonistic races, one of them has certainly failed hitherto in fulfilling the artistic mission which, under favourable circumstances, it seems eminently qualified to perform.

From these causes, the Gothic antiquities of Ireland would not deserve much notice in a work not specially devoted to that one subject, were it not that, besides these, Ireland possesses what may properly be called a Celtic style of architecture, which is as interesting in itself as any of the minor local styles of any part of the world, and, so far as at present known, is quite peculiar to the island. None of the buildings of this style are large, though the ornaments on many of them are of great beauty and elegance. Their chief interest lies in their singularly local character, and in their age, which probably extends from the 5th or 6th century to the time of the English conquest in 1176. They consist principally of churches and round towers, together with crosses and a number of other antiquities hardly coming within the scope of this work.

No Irish church of that period now remaining is perhaps even 60 ft. in length, and generally they are very much smaller, the most common dimensions being from 20 to 40 ft. long. Increase of magnificence was sought to be attained more by extending the number of churches than by augmenting their size. The favourite number for a complete ecclesiastical establishment was 7, as in Greece and Asia Minor, this number being identical with that of the 7 Apocalyptic churches of Asia. Thus, there are 7 at Glendalough and 7 at Cashel; the same sacred number is found in several other places,[1] and generally two or three at least are found grouped together.

As in Greece, too, the smallness of the churches is remarkable. They were not places for the assembly of large congregations of worshippers, but were oratories, where the priest could celebrate the divine mysteries for the benefit of the laity. In fact, no church is known to have existed in Ireland before the Norman Conquest that can be called a basilica, none of them being divided into aisles either by stone or wooden pillars, or possessing an apse, and no circular church has yet been found: nothing, in short, that would lead us to believe that Ireland obtained her architecture direct from Rome; while everything, on the contrary, tends to confirm the belief of an intimate connexion with the farther East, and that her earlier Christianity and religious forms were derived from the East, by some of the more southerly commercial routes which at that period seem to have touched on Ireland.

A good deal of uncertainty and even of ridicule has been thrown on the subject of the Eastern origin of the Irish Church by the extreme enthusiasm of its advocates, but there seems to be no reasonable ground for doubting the fact. At all events, it may safely be asserted that the Christian religion did not reach Ireland across Great Britain, or by any of the ordinary channels through the Continent. As a corollary to this, we must not look for the origin of her architectural styles either in England or in France, but in some more remote locality whose antiquities have not yet been so investigated as to enable us to point it out as the source whence they were derived.

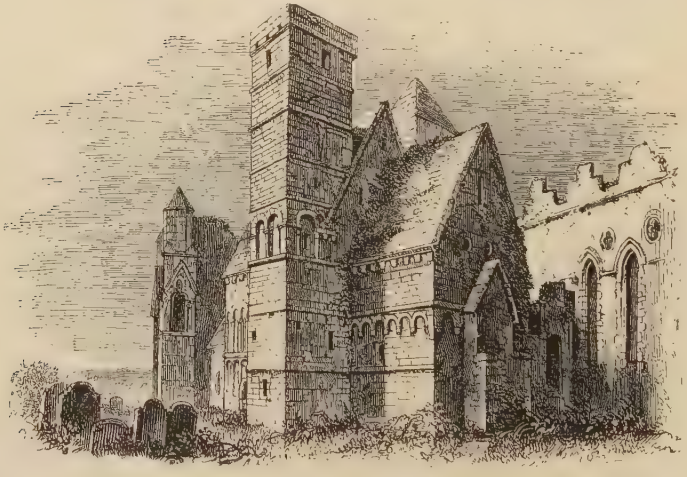
The Irish Celtic churches are generally rectangular apartments, a little longer than they are broad, like the small one on the island of Innisfallen on the lake of Killarney (woodcut No. 633). To the larger churches a smaller apartment of the same proportions is added to the eastward, forming a chancel, with an ornamental arch between the two.

The most remarkable of these now existing is that known as Cormac's Chapel, on the rock at Cashel (woodcut No. 634), which was consecrated in the year 1134. It is a small building, 55 ft. long over all externally. The chancel is 12 ft. square internally, covered

[1] Seven churches are also found at Scattery and Innis Caltra in Clare, Tory Island, Donegal, Rattoo in Kerry, Inchclorin, Longford, and Arraumore in Galway.

with an intersecting vault; the nave is 18 ft. by 29, and covered by a tunnel-vault with transverse ribs, very like those found in the South of France. Externally, as shown in the view, it has two square towers attached to it at the juncture of the nave and chancel, and is richly ornamented by a panelling of small arches.

633. Oratory, Innisfallen, Killarney.



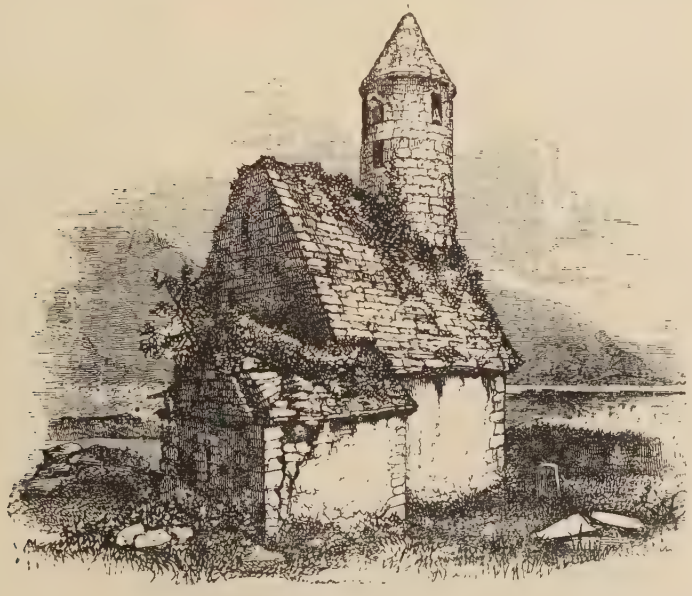
634. Cormac's Chapel, Cashel.

In almost all cases the principal entrance to these churches is from the west, opposite to the altar. The chapel at Cashel is, however, an exception, since it has both a north and a south entrance. That on the north is the principal, and very richly ornamented. The same is the case at Ardmore, where the whole of the west end is taken up by a bas-relief rudely representing scenes from the Bible, and the entrance is on the north side of the nave. On these principal entrances all the resources of art were brought to bear, the windows generally being

very small, and apparently never glazed. There is a doorway at Freshford in Kilkenny, and another at Aghadoe near Killarney, which for elegance of detail will bear comparison with anything in England or on the Continent, of the same age.

One of the peculiarities of these churches is, that they were nearly all designed to have stone roofs, no wood being used in their construction. The annexed section (woodcut No. 635) of the old church at Killaloe, belonging probably to the 10th century, will explain how this was generally managed. The nave was roofed with a tunnel-vault of the ordinary form; over this is a chamber formed by a pointed arch, and on the outside of these two, the roofing slabs were laid. Sometimes, instead of being continuous, the upper vault was cut into ribs, and the roof built up straight externally, with horizontal courses resting on these ribs. This mode of double roofing was, perhaps, a complication, and no improvement on

635. Section of Chapel, Killaloe.



636. St. Kevin's Kitchen, Glendalough.

that adopted in the South of France in the same age (woodcuts Nos. 285, 292), but it enabled the Irish to make the roof steeper than could be effected with a single vault, and in so rainy a climate this may have been of the first importance.

The roof of the Cashel Chapel is of this double construction; so is the building called "St. Kevin's Kitchen" at Glendalough (woodcut No. 636), which apparently belongs to the 7th century. There is another very similar at Kells, and several others in various parts of Ireland, all displaying the same peculiarity.

Had the Irish been allowed to persevere in the elaboration of their own style, they would probably have applied this expedient to the roofing of larger buildings than they ever attempted, and might, in so doing, have avoided the greatest fault of Gothic architecture. Without more experience, it is impossible to pronounce to what extent the method might have been carried with safety, or to say whether the Irish double vault is a better constructive form than the single Romance pointed arch. It was certainly an improvement on the wooden roof of the true Gothic style, and its early abandonment is consequently much to be regretted.

Round Towers and Oratories.

The round towers which accompany these ancient churches have long proved a stumbling-block to antiquaries, not only in Ireland but in this country; and more has been written about them, and more theories proposed to account for their peculiarities, than about any other objects of their class in Europe.

The controversy has been, to a considerable extent, set at rest by the late Mr. George Petrie.[1] He has proved beyond all cavil that the greater number of the towers now existing were built by Christians, and for Christian purposes, between the 5th and 13th centuries; and has shown that there is no reasonable ground for supposing the remainder to be either of a different age or erected for different uses.

Another step has recently been made by Mr. Hodder Westrop, who has pointed out their similarity with the Fanal de Cimetière, so frequently found in France,[2] and even in Austria (woodcut No. 503).

To anyone who is familiar with the Eastern practice of lighting lamps at night in cemeteries or in the tombs of saints, this suggestion seems singularly plausible when coupled with the knowledge that the custom did prevail on the Continent in the middle ages. It is, however, far from being a complete explanation, since many of these towers have only one or two very small openings in their upper storey; and there is also the staggering fact that this use is not mentioned in any

[1] 'The Ecclesiastical Architecture of Ireland anterior to the Anglo-Norman Invasion.' Dublin, 1845.

[2] See Viollet le Duc, 'Dictionnaire d'Architecture,' *sub voce*.

legendary or written account of them which has come down to our time. On the other hand, they are frequently described as bell-towers, and also as treasuries and places of refuge, and seem even better adapted to these purposes than to that of displaying lights.

That they may have been applied to all these purposes seems clear, but a knowledge of their use does not explain their origin, it only removes the difficulty a step farther back. No attempt has been made to show whence the Irish obtained this very remarkable form of tower, or why they persevered so long in its use, with peculiarities not found either in the contemporary churches or in any other of their buildings. No one imagines it to have been invented by the rude builders of the early churches, and no theory yet proposed accounts for the perseverance of the Irish in its employment, at a time when the practice of all the other nations of Europe was so widely different. It must have been a sacred and time-honoured form somewhere, and with some people, previous to its current adoption in Ireland; but the place and the time at which it was so, still remain to be determined.

637. Round Tower and Chancel Arch of Fineans Chapel, Clonmacnoise.[1]

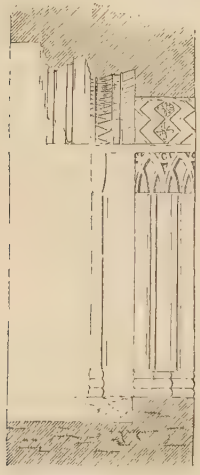
Although, therefore, Mr. Petrie's writings and recent investigations have considerably narrowed the grounds of the inquiry, they cannot be said to have set the question at rest, and anyone who has seen the towers must feel that there is still room for any amount of speculation regarding such peculiar monuments.

In nine cases out of ten they are placed unsymmetrically at some little distance from the churches to which they belong, and are generally of a different age and different style of masonry. Their openings

[1] An amusing instance of the way an error may be propagated occurred with reference to this tower. By an oversight it was designated, in my 'Handbook of Architecture,' as the Round Tower at 'Roscrea.' Kugler, in his 'Geschichte der Baukunst,' vol. ii. p. 293, repeats the error, and amplifies my description; Lübke falls into the same trap in his 'Gesch. der Architectur;' both professing to have taken the cut from Wilkinson, whose work they never could have seen, or they would not have made the same mistake that I did.

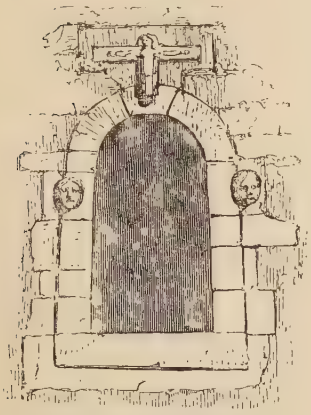
have, in all cases, from the oldest to the most modern, sloping jambs, which are very rare in the churches, being only found in the earliest examples. Their doorways are always at a height of 7, 10, or 13 ft., from the ground, while the church doors are, it need hardly be said, always on the ground level. But more than all this, there is an unfamiliar aspect about every detail of the towers which is never observed in the churches. The latter may be rude, or may be highly finished, but they never have the strange and foreign appearance which the towers always present.

Notwithstanding this, the proof of their Christian origin is in most cases easy. Woodcut No. 636, for instance, shows a round tower placed *upon* what is, undoubtedly, a Christian chapel, and which must consequently be either coeval with the tower or more ancient. At Clonmacnoise (woodcut No. 637) the masonry of the tower is bonded with the walls of the church, and evidently coeval therewith, the chancel arch being undoubtedly Christian round Gothic of the 10th or 11th century. At Kildare the doorway of the tower (woodcut No. 638) is likewise of unquestionable Christian art, and an integral part of the design, though it may be somewhat earlier than the foregoing; and at Timahoe the doorway of the tower is richer and more elaborate, but at the same time of a style so closely resembling that of Cormac's Chapel as to leave no doubt of their being nearly of the same age. The only remarkable difference is that the jambs of the doorway of the tower slope considerably inwards, while all those of the chapel are perfectly perpendicular. Another proof of their age is, that many of the doorways have Christian emblems carved *in relief* on their lintels, as in the example from the tower at Donoughmore (woodcut No. 639), or that from Antrim (woodcut No. 640), or on the round tower at Brechin in Scotland,—emblems which, from their position, and the fact of their being in relief, cannot have been added, and must therefore be considered as original. When we find that the towers which have not these indications differ in no other respect from those that have, it is impossible to resist the conclusion that they too are of Christian origin; the positive evidence of a few being sufficient to overbalance the mere absence of proof in a far greater number.

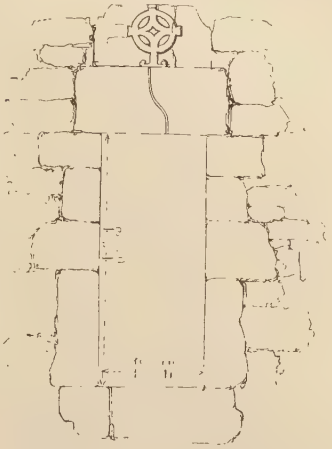


638. Doorway in Tower, Kildare.

Antiquaries have enumerated 118 of these monuments as still to be found in Ireland; of these some 20 are perfect, or nearly so, varying

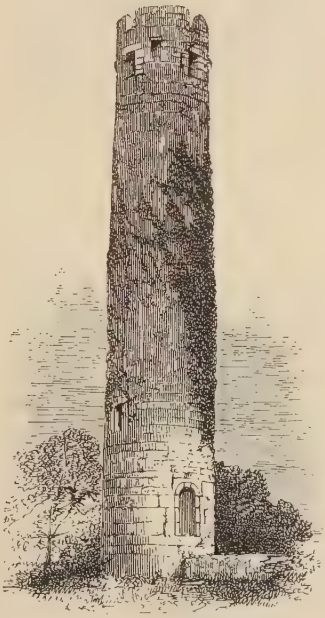


639. Doorway in Tower, Donoughmore, Meath.



640. Doorway in Tower, Antrim.

641. Tower, Devenish

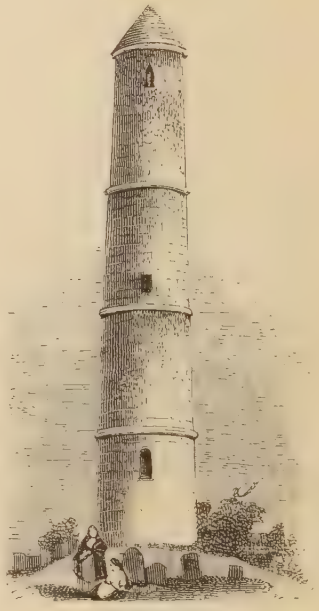


642. Tower, Kilree, Kilkenny.

in height from about 60 ft. to 130 ft., which is the height of the imperfect one at Old Kilcullen. They all taper upwards towards the summit, and are generally crowned with a conical cap like that at

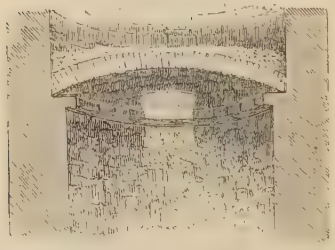
Clonmacnoise (woodcut No. 637), though not often constructed in the herring-bone masonry there shown.

643. Tower, Keneith, Cork.



644. Tower, Ardmore.

The tower of Devenish (woodcut No. 641) may be taken as a typical example of the class. It is 82 ft. high, with a conical cap, and its doorway and windows are all of the form and in the position most usually found in monuments of this class. The conical cap is frequently omitted and its place supplied by a battlemented crown; this is the case at Kildare, and also at Kilree (woodcut No. 642). In one instance, and, I believe, one only, the base of the tower is octagonal. This is found at Keneith, county Cork (woodcut No. 643).[1]



645. Floor in Tower, Keneith.

One of the most beautiful and most perfect is that of Ardmore (woodcut No. 644). It is of excellent ashlar masonry throughout, and is divided externally into 4 storeys by string-courses, which do not, however, mark the position of the floors inside. Its mouldings and details lead to the presumption that it is nearly coeval with Cormac's Chapel, Cashel, and that consequently it must belong to the 12th century. It stands within the precincts of the rude

[1] Compare this with the contemporary tower at Gazni, further on, in the chapter on Saracenic Architecture in India.

old church mentioned above, and when explored not long ago the skeletons of two persons were found below its foundations, placed in such a manner as to lead to the inevitable conclusion that it was a place of Christian burial before the foundations of the tower were laid.

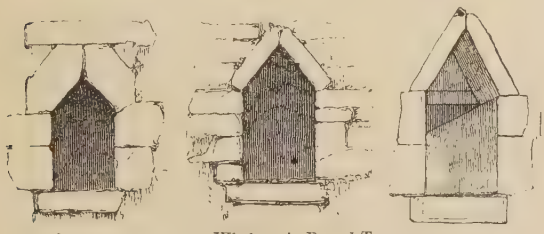
The floors which divide the tower into storeys are generally of wood, but sometimes of masonry, constructed as that at Keneith (woodcut No. 645). There are no stairs, but ladders are used to pass from one storey to the next.

Several instances of doorways have been quoted above. Of these no two are exactly alike, though all show the same general characteristics. That at Monasterboice, for instance (woodcut No. 646), has an arch cut out of a horizontal lintel extending the whole way across, while that at Kilcullen (woodcut No. 647) has the arch cut out of two stones, which is by far the most usual arrangement.

646. Doorway, Monasterboice

647. Doorway, Kilcullen, Kildare.

The windows are generally headed with two stones meeting at the apex, as in the three examples given below (woodcut No. 648); but sometimes the window-head is either a flat lintel or a single stone cut into the form of an arch, as at Glendalough (woodcut No. 649).



648. Windows in Round Towers.

649. Window, Glendalough.

Though these remarkable towers are of extremely various forms, differing according to their age and locality, almost all exhibit that peculiar Cyclopean character of masonry which has led to such strange

though often plausible, speculations; for though neither their details nor their masonry would excite remark if found at Norba in Latium or at Æniadæ in Acarnania, yet here they stand alone and exceptional to everything around them.

Whatever may have been their origin, there can be no doubt as to the uses to which they were applied by the Christians—they were symbols of power and marks of dignity. They were also bell-towers, and lamps were possibly lighted in them in honour of the dead. But perhaps their most important use was that of keeps or fortalices; to which, in troubled times, the church plate and other articles of value could be removed and kept in safety till danger was past.

As architectural objects these towers are singularly pleasing. Their outline is always graceful, and the simplicity of their form is such as to give the utmost value to their dimensions. Few can believe that they are hardly larger than the pillars of many porticoes, and that it is to their design alone that they owe that appearance of size they all present. No one can see them without admiring them for these qualities, though the peculiar fascination they possess is no doubt in great measure owing to the mystery which still hangs round their origin, and to the association of locality. In almost every instance the tower stands alone and erect beside the ruins of an ancient but deserted church, and among the mouldering tombstones of a neglected or desecrated graveyard. In a town or amid the busy haunts of men, they would lose half their charm; situated as they are, they are among the most interesting of the antiquities of Europe.

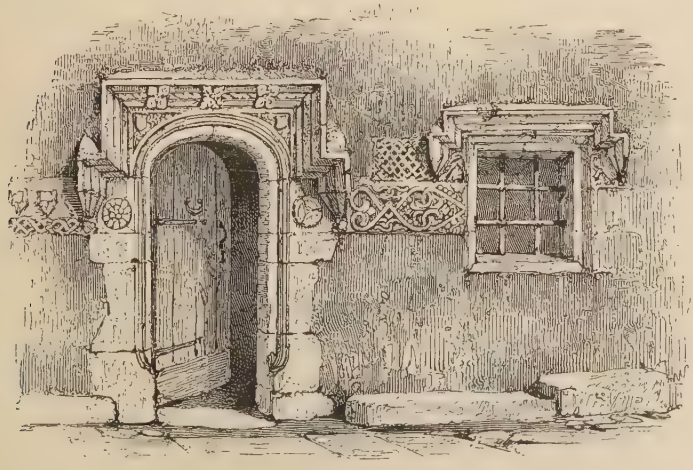
650. Oratory of Gallerus. From Petrie's 'Ancient Architecture of Ireland.'

There is still another class of antiquities in Ireland, older perhaps than even these round towers, and certainly older than the churches to which they are attached. These are the circular domical dwellings found in the west of the island, constructed of loose stones in horizontal layers approaching one another till they meet at the apex, like the old so-called treasuries of the Greeks, or the domes of the Jains in India. Numbers of these are still to be found in remote parts, sometimes accompanied by what are properly

called oratories, like that shown in woodcut No. 650, taken from Mr. Petrie's valuable work. It is certainly one of the oldest places of worship in these islands, belonging probably to the age of St. Patrick; and it is also one of the smallest, being externally only 23 ft. by 10. It shows the strange Cyclopean masonry, the sloping doorway, the stone roof, and many of the elements of the subsequent style, and it is at the same time so like some things in Lycia and in India, and so unlike almost any other building in Europe, that it is not to be wondered at that antiquaries should indulge in somewhat speculative fancies in endeavouring to account for such remarkable phenomena.

651. Tower, Jerpoint Abbey.

Ireland is not rich in specimens of domestic architecture of the middle ages, but such fragments as do exist show marked variations from the contemporary style in England. Such battlements for instance as those which crown the tower of Jerpoint Abbey are identical with many found in the north of Italy, but very unlike anything either in England or Scotland, and give a foreign look to the whole building which is very striking.



652. House, Galway.

The same may be said of the next example (woodcut No. 652) from a house in Galway. Its architecture might be Spanish, but its ornamental details look like a reminiscence of the entwined decoration of a Runic cross. From whatever source they are derived, it certainly was not England.

Ballyromney Court, illustrated in woodcut No. 653, is perhaps the

653. Ballyromney Court, Cork.

most usual form of an Irish mansion in the last age of Gothic. After its time the Elizabethan became the prevalent style. All individuality vanished with the more complete subjection of the country in the reign of that queen. This is, no doubt, to be regretted; but, as before remarked, Ireland is interesting, not for her Gothic so much as for her Celtic antiquities, the epoch of which closed as nearly as may be with the English conquest in 1176.

654. Cross at Kels.

BOOK VII.

SPAIN AND PORTUGAL.

CHAPTER I.

INTRODUCTORY.

SPAIN.

INTRODUCTION.

CHRONOLOGY.

	DATES.		DATES.
Gothic conquest—Athaulf	A.D. 411	Alphonso III.—conquest of Toledo	A.D. 1085
Moorish conquest	711	Conquest of Cordova	1226
Kingdoms of Navarre and Aragon established, about	760	„ „ Valencia	1238
Sancho I., King of Castille	1005	„ „ Seville and Murcia	1243
Alphonso VI. unites all Northern Spain into one kingdom	1072	Ferdinand el Santo died	1252
Henry de Besançon—foundation of kingdom of Portugal	1095	Alonso el Sabio	1252–1284
		Pedro the Cruel	1350–1369
		Ferdinand and Isabella	1474–1516
		Conquest of Granada	1492

Spain is one of those countries regarding the architecture of which it is almost as difficult to write anything consecutive as regarding that of Scotland. This does not arise from the paucity of examples nor from their not having been examined and described, but from the same cause as was insisted upon in speaking of Scotch art, that the style was not indigenous, but borrowed from other nations, and consequently practised far more capriciously than if it had been elaborated by the Spaniards themselves.

In the very early ages of their architectural history we do find the inhabitants of the Peninsula making rude attempts to provide themselves with churches. These, however, were so unsuited for their purposes that so soon as returning prosperity put the Spaniards in

a position to erect larger edifices, they at once fell into the arms of the French architects, who had advanced far beyond them in the adaptation of classical materials to Christian purposes. When tired of the French styles, they enlisted the Germans to assist them in supplying their wants, and Italy also contributed her influence, though less directly than the other two. In the mean time the Moors were more steadily elaborating their very ornate but rather flimsy style of art in the southern part of the Peninsula, and occasionally contributed workmen and ideas whose influence may be traced almost to the foot of the Pyrenees. When all this passed away with the middle ages, they borrowed the Renaissance style of the Italians, but used its Doric and Corinthian details more literally and with less adaptation than any other nation. With these classical materials they erected churches which were larger and more gorgeous than those of the previous styles, and admired them with the same unreasoning devotion they had bestowed on their predecessors.

So far as we at present know, this peculiarity is unique in the history of architecture. Some nations are content to worship in barns, or to dispense with temples altogether. It is not, therefore, surprising that they should have no architecture, or should throw it aside as the Scotch did the moment they could shake off its trammels. But the Spaniards loved art. They delighted in the display of architectural magnificence, and indulged in pomp and ceremonial observances beyond any other people on the Continent.

The singularity is, that though endowed with the love of architecture, and an intense desire to possess its products, nature seems to have denied to the Spaniard the inventive faculty necessary to enable him to supply himself with the productions so indispensable to his intellectual nature. We can perfectly understand how, among so Teutonic a people as the Scotch, architecture should be found planted in an uncongenial soil and perish with the first blast of winter; but what seems unique is that, planted where both the soil and climate seem so thoroughly congenial as they do in Spain, it should still remain exotic and refuse to be acclimatized.

If we knew who the Spaniards were we might be able to explain these phenomena, but we know so little of the ethnography of Spain that at present this source of information is not available. The term "Iberian" hardly conveys a distinct idea to the mind. The first impulse is to say they must have been Turanian; but, if so, where are their tombs? Do any tumuli or dolmens or cromlechs exist in Spain? or any traces of sepulchral rites or ancestral worship? If so, they certainly have not been described: and unless they exist or have existed, we are safe in asserting that no Turanian people lived in historic times in Spain. From history we know that the Phœnicians occupied the coast-line at least all round the southern part of the Peninsula, and their

settlements probably penetrated some way into the interior. The facility with which the Moors conquered and colonised the country, is in itself sufficient to prove that a people of cognate race had occupied the land long before they came there; but this hardly helps us, for neither the Phœnicians nor any of the Semitic races were ever builders, and we look in vain in Spain or at Carthage, or at Tyre or Sidon, for anything to tell us what their architecture may have been. The Goths who invaded Spain in the beginning of the 5th century must have been of Teutonic race, Aryans *pur sang*, for they have not left a building or a tradition of one, and they therefore can hardly have influenced the style of their successors in the Peninsula. Even the Moors were scarcely an architectural people in the proper sense of the term. Their mosques were, so far as we know them, made up of fragments of classical temples arranged without art or design. Their palaces were ornamented with plaster work of the most admired complexity of design, coloured with the most exquisite harmony; but all this was the work of the ornamentalist, hardly of the architect. It was perfectly suited to the wants of an elegant and refined Oriental race, but most ill adapted to the wants of a hardy race of mountaineers struggling for freedom against the invaders of their birthright. The Celtic element must have been the one wanting in this "olla podrida" of nations to fuse the whole together, and to give the arts that impulse which in Spain was always wanting. All the other elements they seem to have possessed, but the absence of this single one prevented them from attaining that unity which would enable us to follow their story with the same interest which we feel in tracing the development of the arts in France or England. Notwithstanding this, however, it must be confessed that the result in Spain is frequently grand, and even gorgeous, though never quite satisfactory.

The periods of Gothic architecture in Spain coincide in age very nearly with those in this country, far more nearly than with France or Italy, or any other nation. Before the era of the Cid (1066–1099), which was coincident with that of William the Conqueror, there existed a style similar in importance and character to our Saxon style. This the Spaniards call "obras de los Godos," and the term may be practically correct, but it would confuse our nomenclature to call it the "Gothic" of Spain. "Asturian" or "Catalonian" might nearly describe it, but for the present some such indefinite description as "Early Spanish" must suffice.

In the latter half of the 11th century it was overwhelmed, as in this country, by a wholesale importation of French designs. These continued to be employed, as if no Pyrenees existed, for about a century, with the round arch in all the decorative features, but with an occasional tendency to employ the pointed arch in construction.

By degrees this round-arched style grew into an early pointed Spanish, which, like our own lancet, is more national and more characteristic than any other phase of the art, and, like it, seems to have been more cherished and for a longer time. In the beginning of the 13th century a new set of French patterns were introduced; but while French cathedrals with geometric tracery were being erected at Toledo, Burgos, and Leon, in the provinces they continued to adhere to the simpler and more solid forms of the earlier style.

During the 14th century the French style reigned supreme, with only a slight touch of local feeling and a slight infusion of Moorish details in parts, till in the 15th it broke away from its prototype into a style half German, half Spanish, with all the masonic cleverness so fatal to the style in Southern Germany, and more than German exuberance of detail, and complexity of vaulting expedients. With these the style continued to be used for churches as late as in England, and long after the classical styles had become universal in Italy and fashionable in France.

The Gothic style was not entirely disused in Spain till after the middle of the 16th century, but there its history ends, no attempt at a Gothic revival having yet been perpetrated among that inartistic race. It may come, however; but they would adopt Mexican or Chinese with equal readiness, if either of these styles would provide them with places of worship as gorgeous and as suited to their purposes as those they now possess.[1]

[1] So much of the information regarding Spanish architecture which is contained in the following pages, is derived from Mr. Street's beautiful work, entitled 'Gothic Architecture in Spain,' published last year, that it has not been thought necessary to refer specially to that work in the text. With one or two exceptions, all the plans are reduced from those in Mr. Street's book, and many of the woodcuts are also his. If any one will take the trouble of comparing the very meagre account of Spanish architecture contained in the 'Handbook,' with what is said in this work, they will at once perceive my obligations to Mr. Street. His work is a model of its class, and has quite revolutionised our knowledge of the subject.

CHAPTER II.

CONTENTS.

Round-arched Gothic. Churches at Naranco, Roda, and Leon — Early Spanish Gothic. Churches at Santiago, Zamora, Toro, Avila, Salamanca, and Tarragona — Middle pointed style. Churches at Toledo, Burgos, Leon, Barcelona, Manresa, Gerona, Seville — Late Gothic style. Churches at Segovia, Villena — Moresco style. Churches at Toledo, Ilescas, and Saragoza.

Early Spanish Round-arched Gothic.

As might be expected from what we know of the history of Spain, the only specimens of this style which are known to exist in the country are to be found in the Asturias or in the recesses of that mountain range which extends from Coruna to Barcelona. It was in these regions alone that the Spanish Christians found refuge during the supremacy of the Moslems in the Peninsula, and were free to exercise their religious forms without molestation.

Four or five examples of the style have been described in sufficient detail to enable us to see what its leading features were. The earliest appears to be that of Santa Maria de Naranco, near Oviedo, said to be erected A.D. 848.[1] Another is S. Miguel de Lino, which appears to be nearly as old. A third, San Salvador de Val de Dios,[2] is less important than the other two, and, though peculiar, more like an Irish or French oratory than the others. A fourth is Santa Cristina de Lino.[3] San Pablo, Barcelona,[4] may be of about the same age as these; and no doubt there are many others which have escaped notice from their insignificant dimensions.

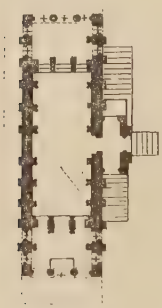
Among these the most interesting is that first named, which stands at Naranco. As will be seen from the plan (woodcut No. 656), it is unlike any contemporary example we are acquainted with. Practically it is a Roman tetrastyle amphiprostyle temple, if such terms can be applied to a Christian edifice: and, so far as we can understand, the altar was placed originally in one of the porticos, and the worship was consequently probably external. The great difference seems to have been that there was a lateral entrance, and some of the communicants at least must have been accommodated in the interior. The ornamentation of the interior differs from classical models more than the plan. The columns are spirally fluted—a classical form—but the capitals are angular, and made to support arches. On the walls also there are

[1] Parcerisa, 'Recuerdos y Bellezas de España.'—Asturias, p. 78.
[2] 'Monumentos Architectonicos.' [3] Ibid. [4] Ibid.

curious medallions from which the vaulting-ribs spring, which seem peculiar to the style, since they are found repeated in S. Cristina.

655. View of Church at Naranco. From Parcerisa.

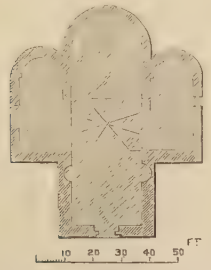
The chief interest of this building, however, lies in the fact that it exhibits the Spaniards in the middle of the 9th century trying to adapt a Pagan temple to Christian purposes, as if the Romans had left no basilicas in the land, and as if the Goths had been unable to elaborate any kind of "ecclesia" in which they might assemble for worship. San Miguel and S. Cristina are adapted for internal worship, but their form is very unlike those of any other church we are acquainted with. The church of San Pablo differs essentially from them, inasmuch as it is a complete Christian church in all its essentials. Though very small (80 ft. by 67) it is triapsal, with a central dome and all the arrangements of a church, but more like examples found in the East than anything usually known in the West. Its details still retain traces of classic feeling (woodcut No. 658), though something not unlike the Jewish candlestick of the Temple is mixed up with ornaments of Christian origin.



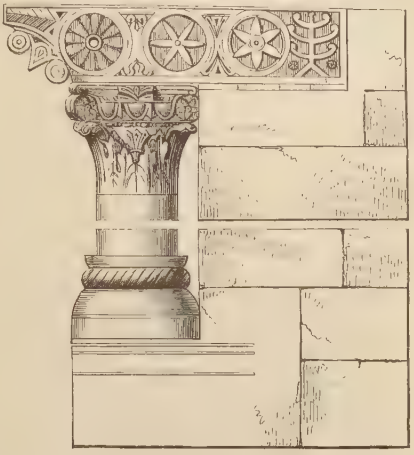
656. Plan of Church at Naranco.
Scale 50 ft. to 1 in.

It is difficult to distinguish between the buildings existing in Catalonia and on the southern side of the Pyrenees, and those which prevailed in the southern Aquitanian province. The church at Roda, for instance (woodcut No. 659), might as well have been found at

Alet (woodcuts Nos. 288, 289) or Elne (woodcuts Nos. 299, 300). It presents a complete Gothic style, rich and elegant in its details, but the parts badly fused together, and not well proportioned either to each other or to the work they have to do. Still the combi-

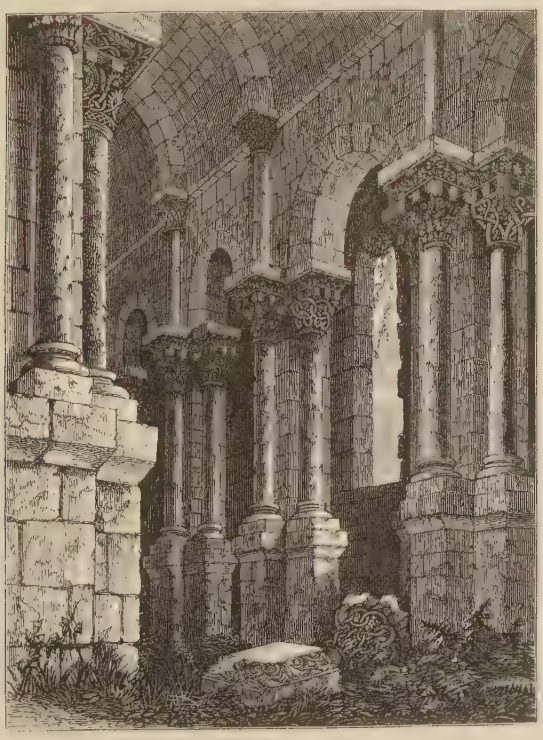


657. Plan of S. Pablo. From 'Mon. Arch.'



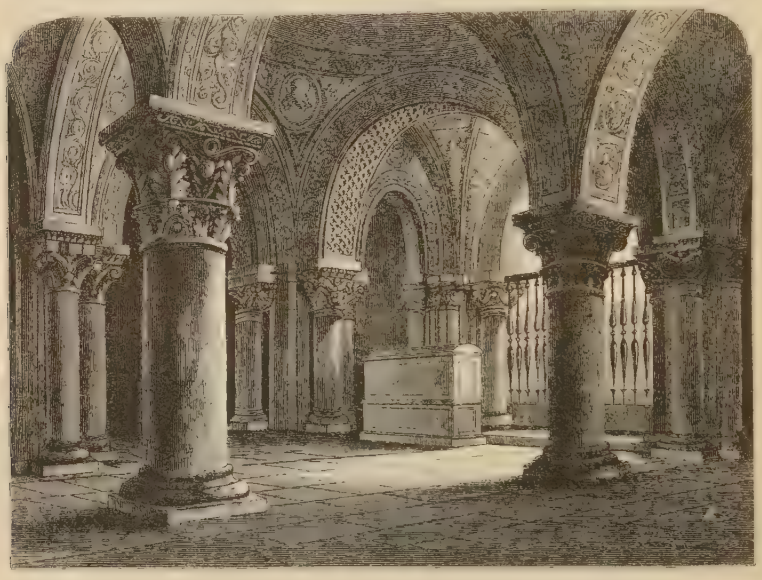
658. Detail of S. Pablo. From 'Mon. Arch.'

nations are so picturesque, and the details so elegant, that it is not without regret that we find the style of Alet and Roda passing away into so nothing more mechanically perfect, but without their quasi-classical refinement.



659. Church at Roda. From Parcerisa.

Towards the other extremity of the architectural province we find in the Panteon of the church of San Isidoro at Leon (A.D. 1063) a contemporary example, exhibiting a marked difference of style. At the time when this and the church at Roda were erected, Catalonia belonged architecturally to Aquitaine, and Leon to Anjou, or some more completely Gothicised province of France. In consequence, we find the style at Leon much more complete in principle, but very much ruder in detail. The eastern province was in the hands of a Latin people, the inhabitants of the western must have been far more essentially Gothic in blood, and their style is strongly marked with the impress of their race.



660. Panteon of St. Isidoro, Leon. From Parcerisa.

EARLY SPANISH GOTHIC.

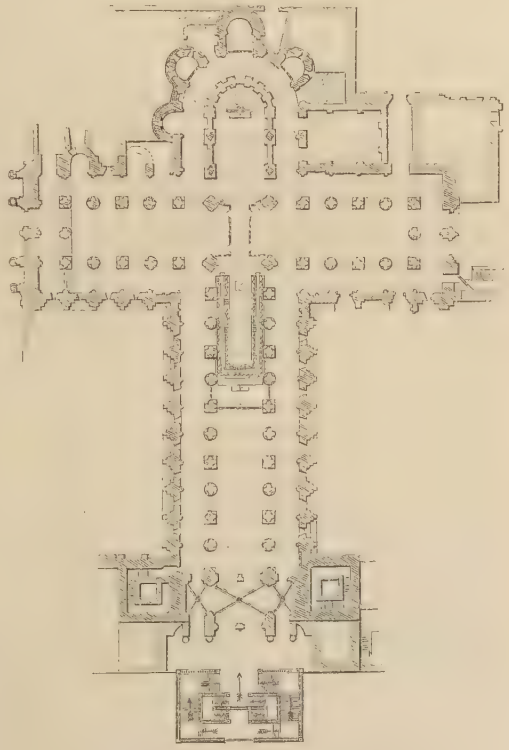
After three centuries of more or less complete supremacy over the whole of Spain with the exception of the northern mountain fastnesses, the tide of fortune at length turned against the Moors. During the course of the 11th century the Castilles and all to the north of them were freed for ever from their power. Their favourite capital, Toledo, fell into the hands of the Christians in 1085, and from that time the Christians had nothing to fear from the Moors, but on the contrary had the prospect of recovering the whole of their country from their grasp. It was consequently a period of great and legitimate exultation, greater than that which followed the fall of the last stronghold of the Infidels before the conquering arms of Ferdinand and Isabella (A.D. 1492)

—an event that ended the drama of the middle ages in Spain, which the conquest of Toledo had commenced. It is between these two events that the history of Gothic art in Spain is practically included.

For present purposes it may suffice to divide this history into three great chapters.

1. Early Spanish Gothic commencing about 1060, and lasting for two centuries. A plain and simple, but bold and effective style, first borrowed from the French, but latterly assuming a local character. Round-arched when first introduced, but adopting the pointed form in its later development, though still retaining the rounded form in many of its details till a very late period of the style.

2. Middle or perfect Pointed Gothic. Introduced from France about the year 1220, when Amiens and Salisbury were founded; and used in the plans of Toledo, Burgos, and Leon. It consequently overlaps the other to some extent, though its actual development as we now see it (except in plans) must probably date from the latter part of the 13th century. It may be said to have lasted for more than 200 years, though it is extremely difficult to draw a line between it and the

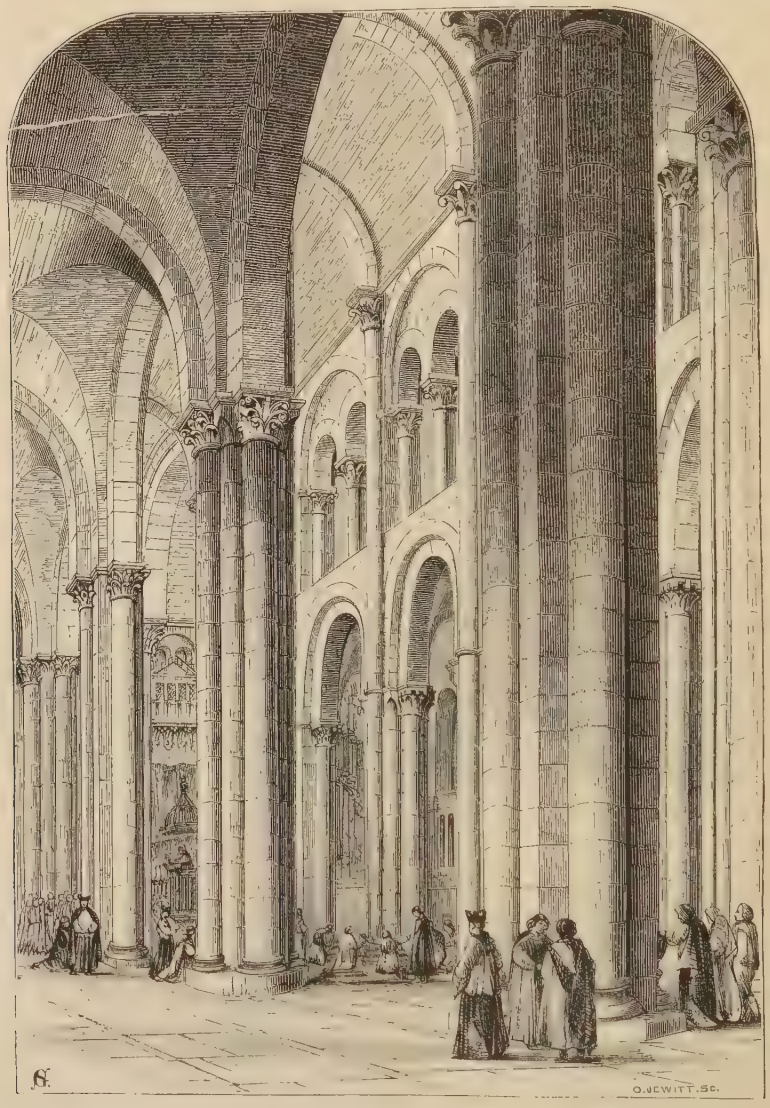


661. Plan of Santiago di Compostella. From Street. Scale 100 ft. to 1 in.

3rd period of Late Gothic style, the duration of which was probably hardly more than one century. The cathedral at Salamanca was founded 1513, and that at Segovia 1525; and these are the two typical examples of the style, which in minor examples continued to be practised till nearly the end of the 16th century, but latterly with a considerable admixture of Renaissance details.

One of the earliest examples of a complete cathedral in Spain is that of Compostella, commenced in 1078, and carried on vigorously from

the foundation. As will be seen by the plan, it is a complete French cathedral in every respect, very nearly identical with that of St. Sernin at Toulouse (woodcut No. 311), possessing only three aisles instead of

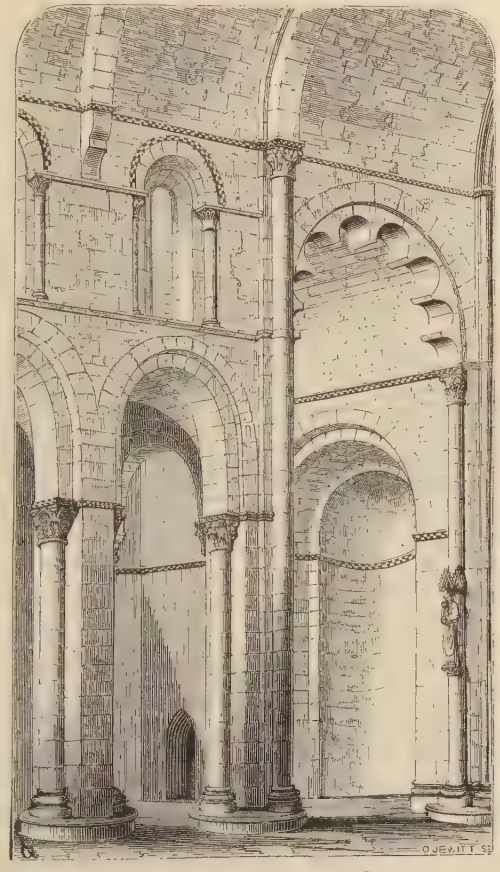


662. Santiago Cathedral Interior of South Transept, looking North-East.

five in the nave, though otherwise very similar to it in arrangement and general dimensions.

Its internal structure is also that of the French cathedral, and

forms an instructive point of comparison with our English examples of the same age. Up to the string-course above the triforium the Spanish, French, and English examples are much alike, except that the section of the piers in England is nearly double that of the others. Above this, at Toulouse and Compostella, there is a bold tunnel-vault with transverse ribs; at Ely, Norwich and Peterborough a clerestory with a flat wooden roof. These differences in the treatment of the upper part no doubt arose to some extent from the difference of latitude, sufficient light being attainable in the South without a clerestory, though the gloom of such a design could never be tolerated in Normandy, and much less in England.



663. Interior of S. Isidoro, Leon. From Street.

What is most striking, however, at Compostella is the completeness of the style. The piers are not only judiciously proportioned to the work they have to perform, but are as perfect in their details as any of the contemporary churches in Auvergne; and, though in what may be called a Doric style, this church is as complete in itself as any of the florid Corinthian Gothics that succeeded it.

The same may be said of the church of San Isidoro at Leon, which though probably somewhat later—the church seems to have been completed about 1149—presents the same simple style in the same degree of well understood completeness, all the lines running through without confusion, and every part well proportioned to the other. The foliation of the transept arch may be a peculiarity borrowed from the Moors, but, as used here, it is simple and appropriate, and perhaps better than a roll

moulding, which would have been the mode of treatment on this side the Pyrenees.

The interior of Zamora Cathedral, which seems to have been erected about the year 1174, though wholly in the pointed-arch style, is as plain and as little ornamented as that last described. Even the interior of the dome is plain when compared with its exterior, which is varied in outline and rich in decoration like most of those of that age in Spain.

664. Cathedral at Zamora. From Villa Amil.

As in the façade, the round arch is employed in the cimborio almost to the exclusion of the pointed arch as a decorative feature, though in the lower part of the façade and under the dome all the arches are pointed.

It is possible that these interiors, which now look so plain, were, or were intended to be, plastered and painted; though, had the intention been carried out, it is hardly probable but that traces of this mode of decoration would have remained to this day, which does not seem

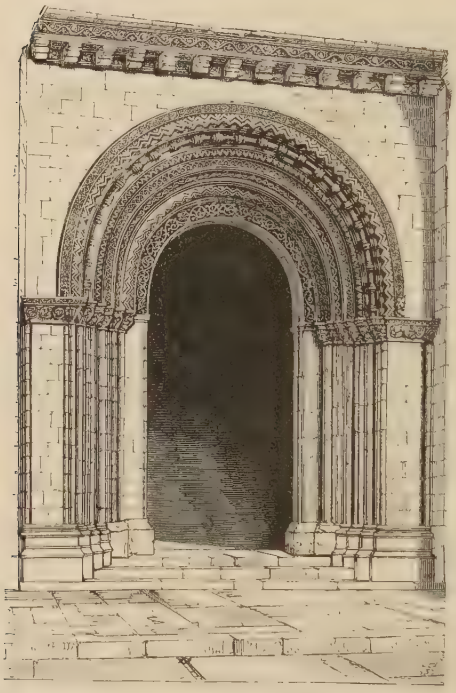
to be the case. Still it is difficult to understand why they should have designed a façade so rich as that of Zamora Cathedral (woodcut No. 664), if it were to lead to an interior infinitely plainer than the exterior would lead one to expect. In all the countries of Europe during the Round-arch Gothic period the external doorways were the features on which the architects lavished all their art, and Spain was certainly not behind the others in this respect. That at Zamora is excelled in richness by that at Toro (woodcut No. 665), though the rest of the façade is not so well worked up to its key-note as in the last example. Among a hundred, one of those at Lerida (woodcut No. 666), borrowed from Mr. Street's work, will illustrate their beauty, and seems to force on us the conviction that so much labour would not have been bestowed on them if they were not intended to herald a greater richness within.

665. Collegiate Church at Toro. From Villa Amil.

In this last example, the doorway has been covered by a porch of 14th or 15th century work; but occasionally the Spaniards seem to have attempted a porch on the scale of Peterborough, as in the church of San Vincente at Avila (woodcut No. 667). In this instance we have only one arch between two flanking towers; but, though limited in extent, it forms a very noble feature, and gives a dignity to the en-

trance, too often wanting in Gothic design. Its date is uncertain—probably the end of the 12th century—but, strange as it may appear, the richly carved doorway within, though round-arched, seems to be an insertion either of the same age, or subsequent to the Pointed-arch architecture which surrounds it.

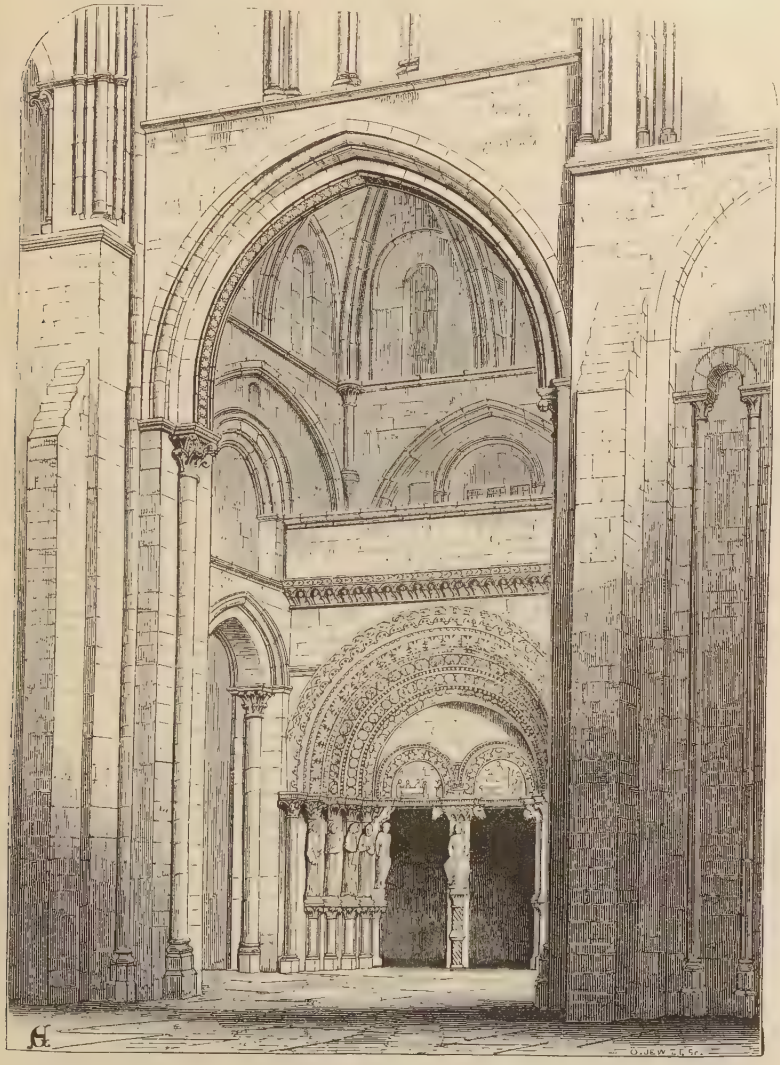
Beautiful as are these details, the great feature of the Early Spanish style is the Cimborio, or dome, which generally occurs at the intersection of the nave with the transepts. Something very similar is to be found in France, especially in Auvergne and Anjou; but the Spaniards seized upon it with avidity, and worked it out more completely than any other nation; and with their wide naves it afterwards assumed an importance almost equal to the octagon at Ely. One of the most perfect examples in the early style, is that which crowns the old Cathedral at Salamanca (woodcut No. 668), and dates about 1200. As will be observed from the view of the exterior, every detail belongs to the Round-arched style, and in France would certainly be quoted as belonging to that date, or earlier; but when we turn to the interior (woodcut No. 669), we find that the whole substructure is of Pointed architecture. True it is the old simple early Spanish style, yet still such as rather to upset our ideas of architectural chronology in this respect. The internal diameter of the dome is only 28 feet; yet it is a most effective feature both internally and externally, and gives great dignity to what otherwise would be a very plain building.



666. Lérida Old Cathedral. Door of South Porch.

Without going beyond the limits of the style, the dome at Tarragona (woodcut No. 672) illustrates the form usually taken by Gothic domes when resting on square bases. There is a little awkwardness in the form of the pendentives, which do not fit the main arches below them, though at that age the Spaniards might have learned from the Saracens how to manage this feature. At Salamanca the mode in which the square base was worked up into a circle was by pendentives of Byzan-

tine form, the courses of masonry simply projecting beyond one another till the transition was effected, but without that accentuation which was thought so essential in Gothic art. Above the pendentives, however, at Tarragona, the form of the dome is perfect. The windows are

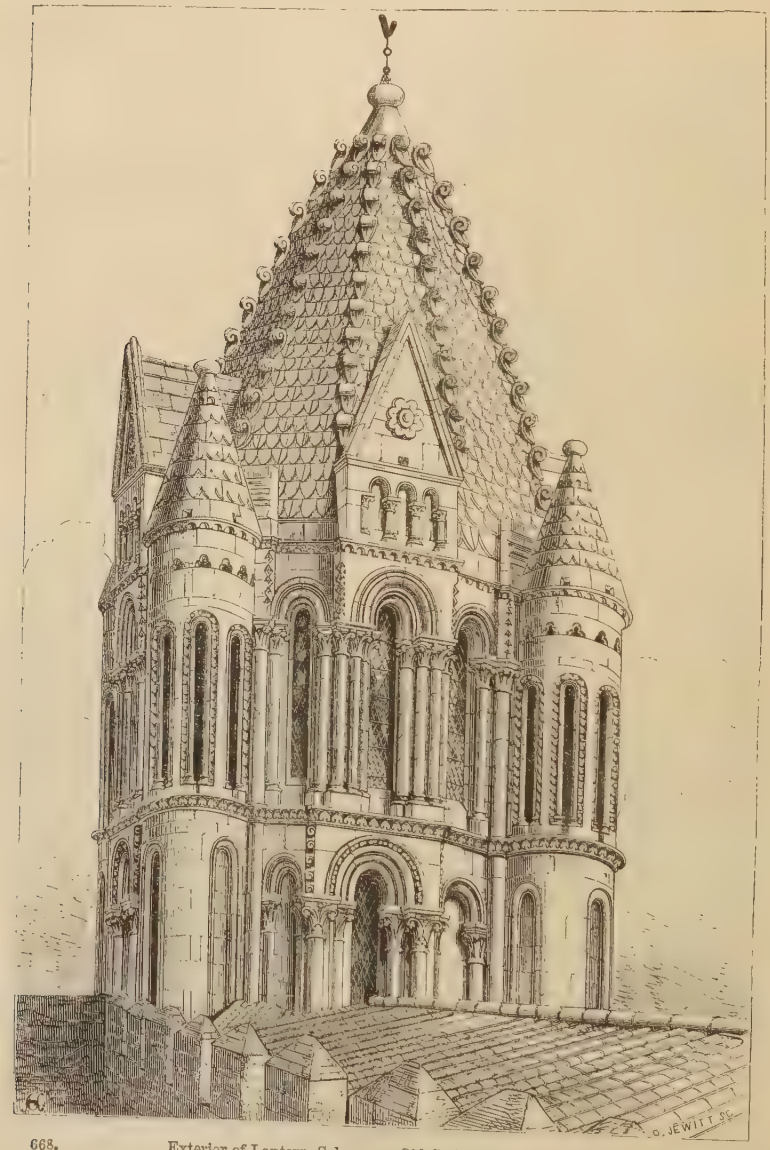


667. San Vicente, Avila. Interior of Western Porch. From Street.

alternately of 3 and 4 lights, and the whole is fitted together with exquisite propriety and taste.

Although borrowing their style in the first instance immediately from the French, the Spaniards developed it with such a variety of

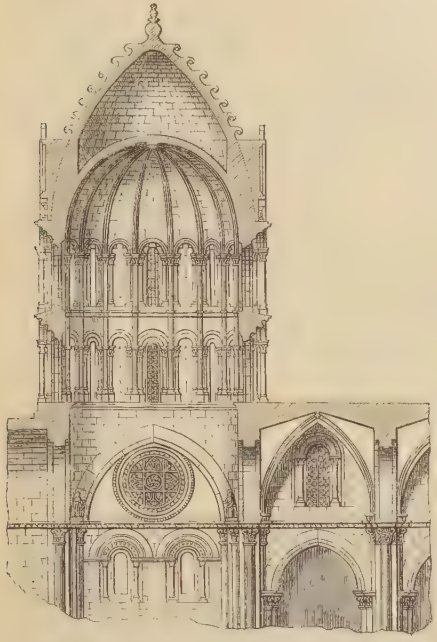
plans and details, as might have made it a style of their own but for the fresh importation of French designs in the beginning of the 13th century. Before these came in, however, they had very frequently



668. Exterior of Lantern, Salamanca Old Cathedral. From Street.

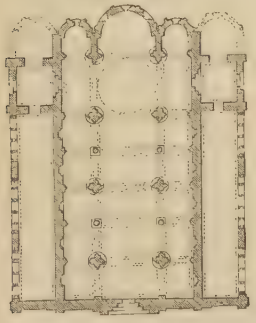
in their churches adopted a form of external portico which was singularly suited to the climate and produced very original and pleasing effects. In the annexed plan of St. Millan at Segovia (woodcut No.

670), they form fourth and fifth aisles opening externally instead of internally; these, with the windows over them and the shadow they afford, break up the monotony of the sides of the church most pleasingly.[1] Sometimes the aisles are carried round the church, so as to form a portico at the west end as well as at the sides. Sometimes they are on one side or the other as the situation demands; but wherever used they are always pleasing and appropriate.

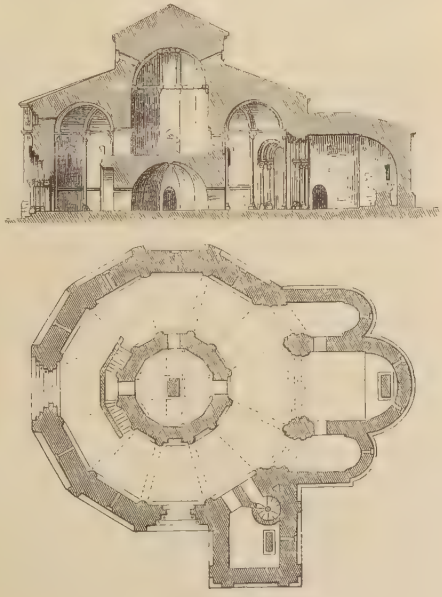


669. Section of Cimborio at Salamanca. From 'Mon. Arch. d'Espana.' Scale 50 ft. to 1 in.

The round form of church does not seem ever to have been a favourite in Spain. There are some examples, it is true, but they seem, like that at Segovia (woodcut No. 671), to have been built by the Templars in imitation of the church at Jerusalem, and used by them, and them only. The idea of a circular ceremonial church attached to a rectangular "ecclesia," does not appear to have entered into Spanish arrangements. As before remarked, the sepulchres of the



670. St. Millan, Segovia. From Gailhabaud. Scale 100 ft. to 1 in.



671. Church of the Templars at Segovia No scale.

[1] These external porticos would be admirably adapted for imitation in the climate of India.

672. Tarragona Cathedral. View across Transepts. From Street.

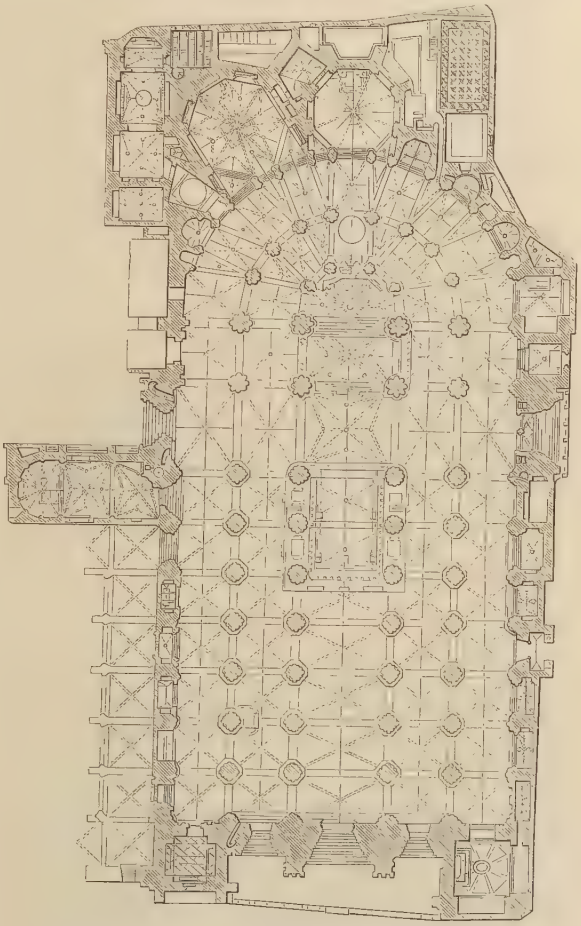
original people of Spain do not seem to have been sufficiently important to lead to any considerable development of this form in the Christian times.

Middle Pointed Spanish Style.

While the early style described in the last chapter was gradually working itself into something original and national, its course was turned aside by a fresh importation of French designs in the beginning of the 13th century. Before the Germans had made up their minds

by building the Cathedral of Cologne to surpass the grandest designs of the French architects, the Spaniards had already planned a cathedral on a scale larger than any attempted even in France. The great church at Toledo was commenced in 1227, seven years after Amiens and Salisbury cathedrals had been determined upon. The plan is certainly of that date; the present superstructure may rather be taken as representing the style of the end of the 13th century, though it does not seem to be known when the church was first consecrated.

The church which Toledo Cathedral most resembles in plan is that at Bourges (woodcut No. 379). The length is about the same, but the French example is only 130 feet in width across the 5 aisles, while the Spanish church is 178 ft., so that its area is considerably in excess. It is not easy to say what the area of Toledo Cathedral really was, as we cannot quite determine which of the excrescences belong to the original design; but we shall not probably be far wrong in estimating it as under 75,000 ft.

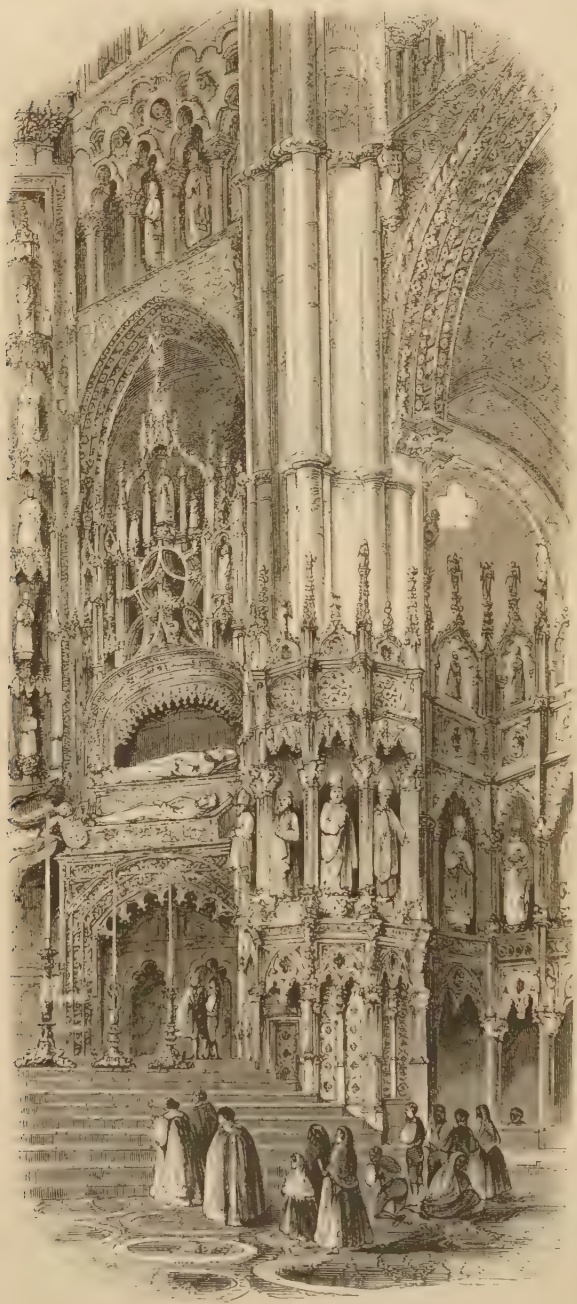


673. Plan of Cathedral at Toledo. From 'Monumentos Architectoricos d'Espana.' Scale 100 ft. to 1 in.

It is less therefore than Seville, Milan, or Cologne. It covers rather more ground than York Cathedral, but considerably exceeds Chartres (68,000 ft.), or any of the French cathedrals.

The church at Toledo possesses the same defect in plan that we remarked on in describing that at Cologne: it is too short for its

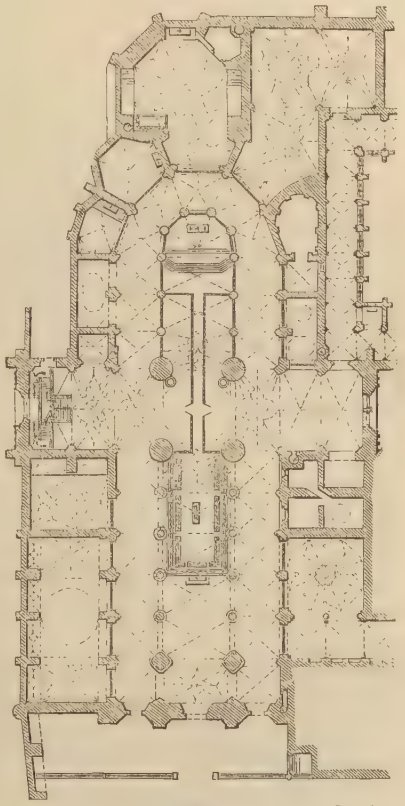
other dimensions. When the French architect at Bourges found himself in that difficulty he omitted the transepts, and so, to a great extent, restored the appearance of length. The architect at Toledo has not projected his transepts to the same extent as at Cologne, but they are still sufficiently prominent internally to make the church look short; but, on the other hand, by keeping his vault low, he has done much to restore the harmony of his design; and instead of the 150 ft. of Cologne, or the 125 of Bourges, even with his greater lateral extension, the height of the central vault is little over 100 ft. (105 ?). The next aisle is 60, the outer 35,—a proportion certainly more pleasing than Bourges, or any other five-aisled cathedral. So thoroughly French is the design, that there is no attempt at a cimborio or dome of any sort at the



674. View in the Choir of the Cathedral at Toledo. From Villa Amil.

intersection of the nave and transepts; but, on the other hand, the arrangement of the choir is essentially Spanish, and the screen surrounding it among the most gorgeous in Spain, and one of the most beautiful parts of the cathedral.

The origin of the Spanish arrangement of the choir will be understood by referring to the plan of San Clemente at Rome (woodcut No. 246). The higher clergy were in the early days of the church accommodated on the bema in the presbytery. The singers, readers, &c., were in an enclosed choir in the nave. The place for the laity was around the choir outside. So long as the enclosing wall of the choir was kept as low as it was at Rome (about 3 ft.), this arrangement was unobjectionable: but when it came to be used as in Spain, it was singularly destructive of internal effect. In France the stalls of the clergy were in the choir beyond the transept, and all to the eastward of the intersection was reserved for them, the nave being wholly appropriated to the laity. This was an intelligible and artistic arrangement of the space; but in Spain the stalls of the clergy were projected into the nave, blocking up the perspective in every direction and destroying its usefulness as a congregational space, where the laity could assemble or be addressed by the bishop or clergy. Worse than this, it separated the clergy from the high altar and Capilla Maior, in which it was situated, so that a railed gangway had to be kept open to allow them to pass to and fro.[1] When the Spaniards determined that this was the proper liturgical arrangement for a church, had they been an artistic people they would have invented an appropriate



675. Plan of Burgos Cathedral. From Street. Scale 100 ft. to 1 in.

[1] The Spanish arrangement has recently been adopted in Westminster Abbey, more by accident than design; with an effect as disastrous as anything in Spain, and apparently as little felt.

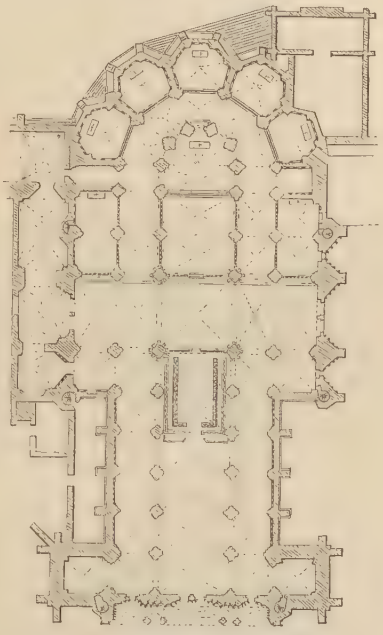
shell to contain it; but to put such an arrangement into a French church was a mistake that nothing could redeem; not even the elaborate richness of the exterior of the choir at Toledo—perhaps the

676. West Front of Burgos Cathedral. From Chapuy, 'Moyen Age Monumental.'

richest specimen of its class in Europe, and betraying in certain parts of its ornamentation the influence of Moorish taste which still lingered in the soil in spite of persecution and every attempt to eradicate it.

The external appearance of this church is very much less beautiful than that of the interior. It is, however, so encumbered, that a good view of it can hardly be obtained, and what is seen has been so much altered as to have lost its original character. The north-western tower of the façade is fine, though late (1425–1479) and hardly worthy of so grand a building. Its companion was terminated with an Italian dome in the last century, and both in height and design is quite incongruous with the rest.

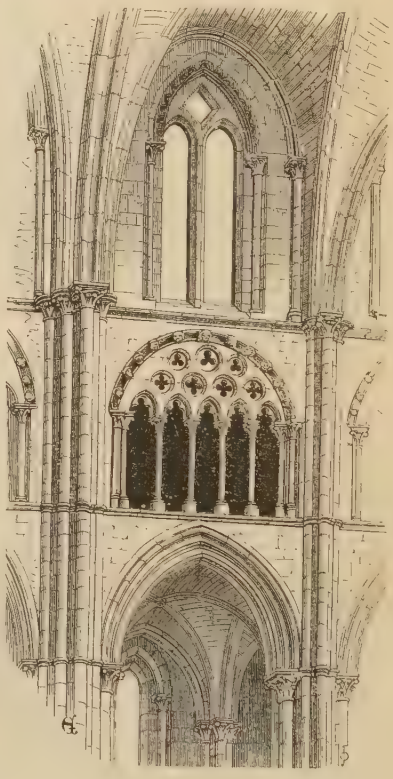
If at Toledo we find a noble interior encased in an indifferent husk, the contrary is the case at Burgos. Although very much smaller, being only originally designed to be 90 ft. wide by about 310 ft. long, and all its dimensions reduced in proportion, still externally it is as picturesque and effective a design as can be found anywhere in Europe (woodcut No. 676). The western façade (1442)—a German design, originally consisting of three portals deeply recessed and richly sculptured, and still crowned with two spires of open work—is exquisitely proportioned to the size of the building, though its details are open to criticism. It is well supported by the cimborio or dome at the intersection, though this is even later, having been erected to replace the old dome which fell 1539, and seems not to have been completed till 1567. Beyond this again, to the extreme east, rises the chapel of the Connestabile, erected about 1487, and though this also is impure in detail it is beautiful in outline, and groups pleasingly with the other features of the design. The effect of the interior is very much injured by the four great masses of masonry which were introduced as piers to support the cimborio when it was rebuilt; and which, with the "Coro" thrust as usual into the nave, greatly destroy the appearance of the building. On the other hand, the richness of the details of the Capilla Maior and of the Connestabile chapel, together with the variety and elaborateness of the other chapels, make up an interior so poetic and so picturesque, that the critic is disarmed, and must admit that Burgos merits the title of a romance in stone if any church does.



677. Plan of Leon Cathedral. From Street. Scale 100 ft. to 1 in.

Leon is a third 13th century church, the design of which seems certainly to have been imported from France. The exact date of its commencement is not known. Mr. Street thinks it about 1250–58, which seems very probable, and it may have been practically completed about 1305. Its dimensions (woodcut No. 677) are not unlike those of Burgos; but it has been very much less altered, and may be taken as the type of a 3-aisled basilica as imported into Spain in the 13th century. In the arrangement of the pier-arches it very much resembles Beauvais, and in the extent of the clerestory it is more essentially French than almost any other church in Spain. Burgos on the contrary (woodcut No. 679) possesses features not to be found in France, such as the round-arched head to the triforium, and the rounded

678. Bay of Choir, Leon Cathedral. From Street.

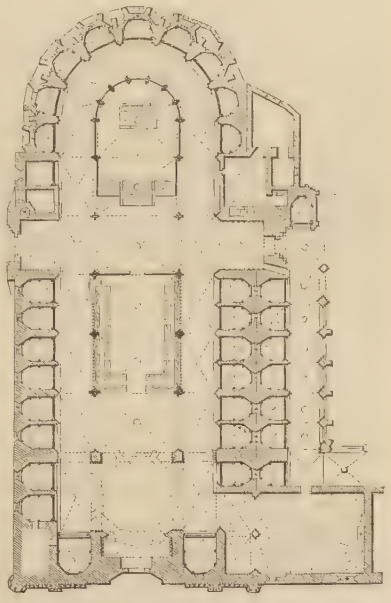


679. Compartment of Nave, Burgos Cathedral.

form of the clerestory intersecting vault. The tracery of the clerestory windows is also peculiar in such a situation, and altogether there is a southern feeling about the whole design which we miss at Leon.

Oviedo is another example of the same class, and generally it may be said that the Spanish cathedrals which were commenced in the first half of the 13th century are all more or less distinctly French in design. But again the Spaniards were working themselves free from their masters, and towards the end of the century and during the next erected a class of churches with wide naves and widely spaced piers which were very unlike anything to be found in France; and, if they cannot be considered as original, their affinities must be looked for rather in Italy than to the north of the Pyrenees.

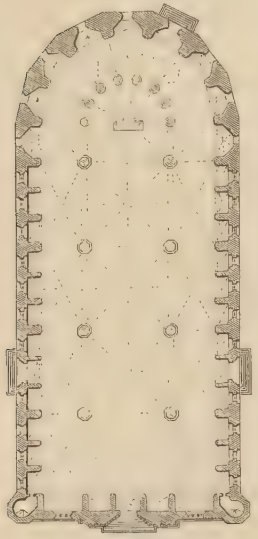
Among these churches the most remarkable group is that still existing in Barcelona. That city seems during the 14th century to have had a season of great prosperity, when the cathedral and other churches were rebuilt on a scale of great magnificence, and with especial reference to the convenience of the laity as contradistinguished from the liturgical wants of the clergy. The cathedral seems to have been commenced about 1298 and been tolerably far advanced in 1329. Its internal length is about 300 ft., its width, exclusive of the side-chapels, about 85 ft., so that it is not a large church, but is remarkable for the lightness and wide spacing of its piers, and generally for the elegance of its details. Looked at from a purely æsthetic point of view, it has neither the grandeur nor solemnity of the older and more solid style; but gloom and grandeur are not necessary accompaniments of a city church, and where cheerfulness combined with elegance are considered appropriate, few examples more fully meet these conditions than this church. Considerable effect is obtained by the buttresses of the nave being originally designed, as was so frequently the case in the south of France, as internal features, and the windows being small are not seen in the general perspective. This supplies the requisite appearance of strength, in which the central piers are rather deficient, while the repetition of



680. Plan of Cathedral at Barcelona. From Street. Scale 100 ft. to 1 in.

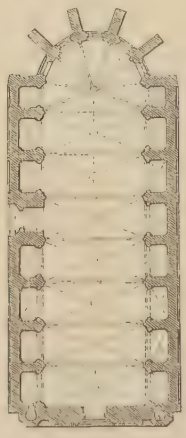
the side-chapels, two in each bay, gives that perspective which the wide spacing of the central supports fails to supply. Altogether the design seems very carefully studied, and the result is more satisfactory than in most Spanish churches.

The system which was introduced in this cathedral was carried a step further in Sta. Maria del Mar (1328–1383). There the central vault was made square and quadripartite, as was frequently the case in Italy: the vault of the aisles oblong, on exactly the contrary principle to that adopted in the north of Europe. Again, however, the equilibrium is to some extent restored by each bay containing three side-chapels, though the effect would have been better if these had been deeper and more important. Such a design is inappropriate when a choir is necessarily introduced to separate the clergy from the laity, but for a congregational church it is superior to most other designs of the middle ages.



681. Sta. Maria del Mar, Barcelona. From Street. Scale 100 ft. to 1 in.

A third church, Sta. Maria del Pi (1329–1353), carries this principle one step further—this time, however, evidently borrowed from such churches as those of Alby (woodcut No. 307) or Toulouse (woodcut No. 308). It has been carried out with the utmost simplicity. The clear internal length is nearly 200 ft., the clear width upwards of 50 ft. Such a church would easily contain 2000 worshippers seated where all could see and hear all that was going on. Though it may be deficient in some of those poetic elements which charm so much in our northern churches, there is a simple grandeur in the design which compensates for the loss.



682. Sta. Maria del Pi, Barcelona. From Street. Scale 100 ft. to 1 in.

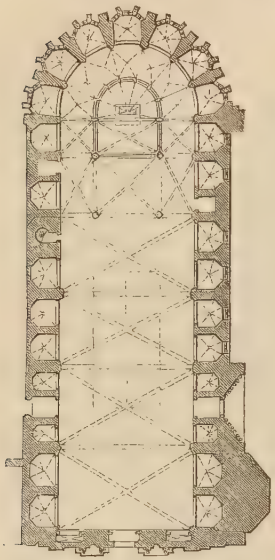
The Collegiate Church at Manresa is very similar in design to Sta. Maria del Mar, only carried a step further, and in the wrong direction. From wall to wall it is 100 ft. wide, and 200 ft. long, and is thus so comparatively short that we miss the perspective which is the great charm in northern cathedrals. Still if it were not that the central aisle is blocked up by the choir, as is usual in Spain, it would be a very noble church. Its central aisle, which possesses a clear width of 56 ft., would be a very

noble place of assembly for a congregation. There is, at the same time, a simplicity and propriety about its details and the arrangement of its apse which have seldom been surpassed, while, at the same time, they are characteristic of Spain.

683. Interior of the Collegiate Church, Manresa. From Street.

The Spaniards having once grasped the idea of these spacious vaulted halls, and found out the means of constructing them, they carried the principle far beyond anything on this side of the Pyrenees.

Their most successful effort in this direction was at Gerona. The choir of a church of the usual French pattern had been erected there in the beginning of the 14th century (1312?), but it had remained unfinished till 1416, when after much consultation it was determined to carry out the design of a certain Guillermo Boffiy, who proposed to add a nave without pillars, of the same breadth as the centre and side-aisles of the choir. As will be seen from the plan, it consists of a hall practically of two squares, the clear width being 73 ft. the length 160 ft. Considering that 40 ft. is about the normal width of the naves of the largest French and English cathedrals, such a span is gigantic, though with the internal buttresses of the side chapels it presented no great difficulty of construction. Indeed, when we remember that in their vaulted halls the Romans had adopted 80 ft. (vol. i. p. 294) as the normal span of their intersecting vaults, it is not its novelty or mechanical boldness that should surprise us so much as its appropriateness for Christian worship. As might be expected, there is a little awkwardness in the junction of the two designs. It is easy to see what an opportunity the eastern end of the great nave offered to a true artist, and how a Northern architect would have availed himself of it, and by canopies and statues or painting have made it a masterpiece of decoration. It is too much to expect this in Spain; but it probably was originally painted, or at least intended to be. Otherwise it is almost impossible to understand the absence of string-courses or architectural framings throughout. But, such as it stands, the church at Gerona must be looked upon as one of the most successful designs of the middle ages, and one of the most original in Spain.



684. Plan of Cathedral at Gerona. From Street. Scale 100 ft. to 1 in.

The Cimborio had somewhat gone out of fashion in the North of Spain in the 15th century, and with these very wide naves had become not only difficult to construct, but somewhat inappropriate.

Still there are examples, such as that at Valencia (woodcut No. 686), which, externally at least, are very noble objects. The church at Valencia seems to have been erected in 1404, and probably it was originally intended to have added a spire or external roof of some sort to the octagon. So completed, the tower would have been a noble central feature to any church, though hardly so perfect in design as that of the old cathedral at Salamanca (woodcut No. 668).

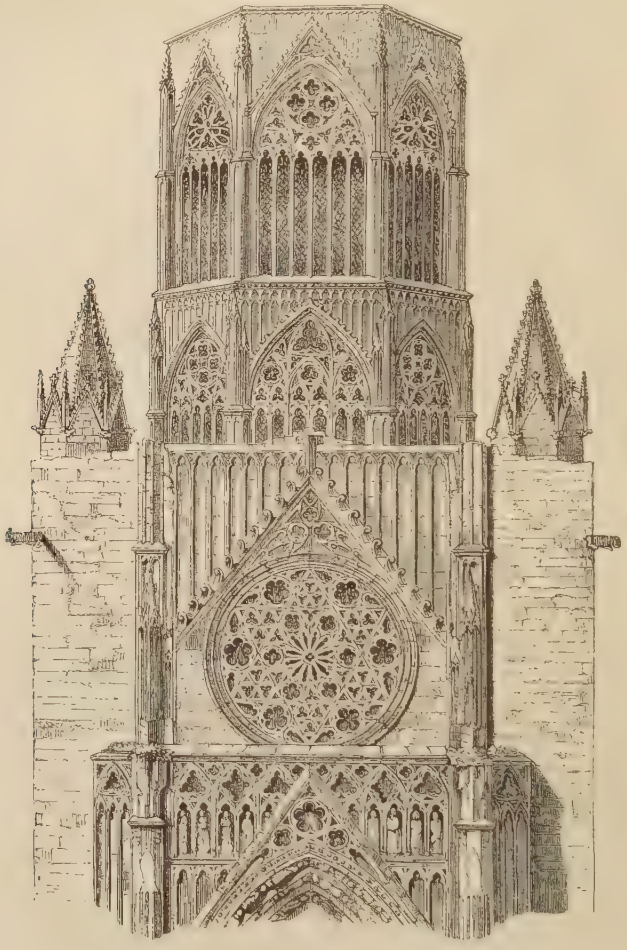
Of about the same age (1401) is the great cathedral of Seville, the

largest and in some respects the grandest of mediæval cathedrals. Its plan can, however, hardly be said to be Gothic, as it was erected on the site of the mosque which was cleared away to make room

685. Interior of Cathedral at Gerona, looking East. From Street.

for it, and was of exactly the same dimensions in plan (woodcut No. 687). It consists of a parallelogram 415 ft. by 298, exclusive of the sepulchral chapel behind the altar, which is a cinque-cento addition. It thus covers about 120,000 sq. ft. of ground, more than a third in excess of the cathedral at Toledo (75,000), and more than Milan

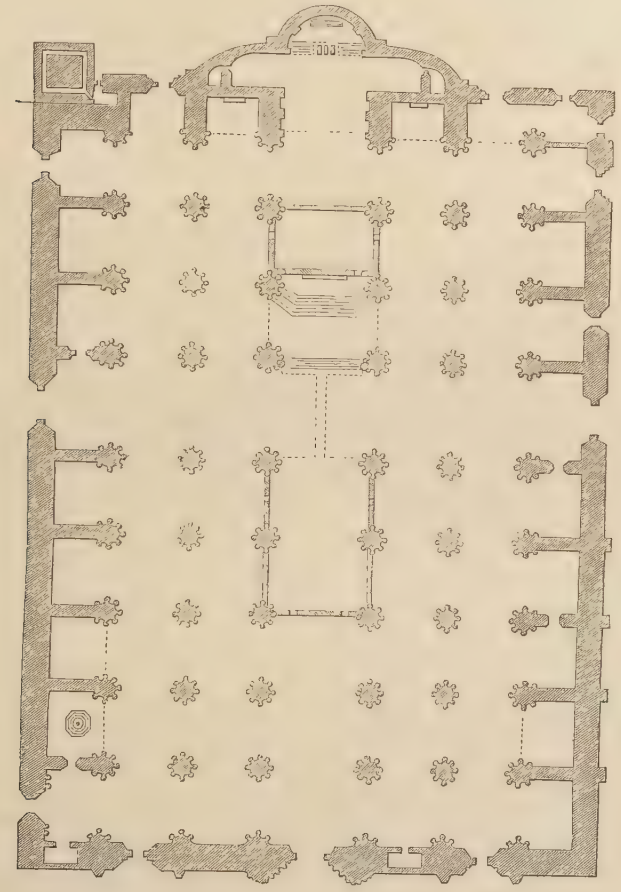
(108,000 ft.), which, next to Seville, is the largest of mediæval creations. The central aisle is 56 ft. wide from centre to centre of the columns, the side-aisles 40 ft., in the exact proportion of 7 to 10, or of the side of an isosceles right-angled triangle to the hypothenuse.



686. Cimborio of Cathedral at Valencia. From Chapuy.

As will be explained hereafter, this is the proportion arrived at from the introduction of an octagonal dome in the centre of the building, though it may have arisen here from the existence of an octagonal court in the centre of the mosque; but, be that as it may, it is a far more agreeable proportion than the double dimension generally adopted by Gothic architects, and probably the most pleasing that has yet been hit upon. Unfortunately no section of the cathedral has been published, but the nave is said to be 145 ft. in height, and the side-aisles

seem to be in as pleasing proportion to it in height as they are in plan, so that, though different from the usually received notions of what a Gothic design should be, it is an invention that would well bear to have been followed further. Perhaps it might have been had it not come so late. The cathedral was only finished about 1520, when St. Peter's at Rome was well advanced.



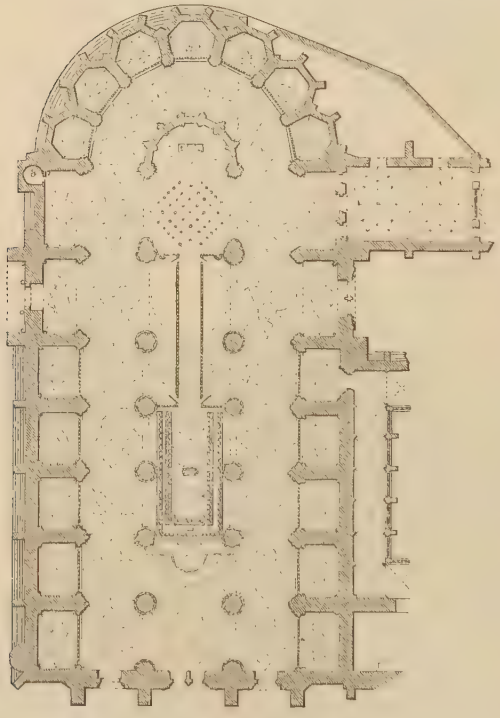
687. Plan of Cathedral at Seville. Scale 100 ft. to 1 in.

The architect of this noble building is not known, but he was probably a German acting under Spanish inspiration, as at Milan we find a German carrying out an Italian design with just that admixture of foreign feeling which seems to prevail at Seville. When, however, we consider what was done at Barcelona so shortly before, or at Segovia so soon afterwards, we need hardly be surprised if a Spanish architect really built this cathedral also. Those features which to us have a foreign aspect may really be peculiarities forced upon him by having

to suit his church to the lines of a mosque, and there may be forms in Andalusian architecture derived from Moorish examples with which we are not so familiar as with those which the Northern provinces derived from France. But, be this as it may, Spain may well feel pride in possessing a cathedral which is certainly the largest of those of the middle ages, as well as far more original in design than Toledo or any that were built under French influence. These remarks apply only to the interior. Externally it never was completed, and those parts which are finished were erected so late in the style that their details are far from pleasing in form or constructively appropriate.

Late Spanish Gothic.

The last stage of Spanish Gothic was not less remarkable than those which preceded it, and perhaps more original. At the time when other Continental nations were turning their attention to the introduction of the classical styles, Spain still clung to the old traditions, and actually commenced Gothic cathedrals in the 16th century. A new cathedral was designed in the year 1513, for Salamanca, to supersede the old one; and another very similar both in dimensions and style was commenced at Segovia in 1523.[1] Both these churches are practically five-aisled, but as they have three free aisles and two ranges of chapels between the internal buttresses, making a total internal width of 160 ft. with an internal length of twice that dimension, no fault is to be found with their internal proportions.



688. Plan of Cathedral at Segovia. From Street. Scale 100 ft. to 1 in.

[1] The church of St. Eustache at Paris was commenced as late as 1532, and, although its plan is almost as Gothic as those of the Spanish examples, the details of the French church are far more essentially Renaissance throughout.

But their details want that purity and subordination so characteristic of the earlier styles.

Their great peculiarity, however, consists in the extreme richness and elaboration of their vaults. In this respect they more resemble St. Jacques, Liège (woodcut No. 419), and some of the late German churches, than anything to be found nearer home. But, wherever derived from, the practice of thus ornamenting the vaults at this late date contrasts singularly with what was done in earlier stages of the style.

One of the defects of Spanish architecture, after the earliest examples in the round-arched forms, is the poverty of its vaults. Generally they are like those of the French; but owing to the vast extent they attained at Gerona, Manresa, and elsewhere, the one lean rib in the centre and the absence of any ridge-rib make themselves more painfully felt than even in the French examples. When in the 16th century the architects tried to obviate this defect, it was not done as in England by constructive lines representing the arches, but by waving curved lines spread capriciously over the vault, which was thus certainly enriched, but can hardly be said to have been adorned.

In one or two instances, the late Gothic architects aimed at the introduction of new principles, not perhaps in the best taste, but still so striking as to merit attention. In the church at Villena (1498-1511), for instance, all the columns are ornamented with spiral flutings so boldly executed as to be very effective; and as this spiral ornament is consistently carried throughout the design, and the parts are sufficiently massive not to look weakened in consequence, the whole design must be admitted to be both pleasing and original.

689. Section of Church at Villena. From 'Mon. Arch. d'Espana.' Scale 50 ft. to 1 in.

The exteriors of these 16th-century churches have a much more modern look than their interiors. From the buttresses being internal, the external walls are perfectly flat, generally terminating upwards by a cornice more or less classical in design. The windows are frequently without tracery, and are ornamented with balconies, and Renaissance ornaments are often intermixed with those of Gothic form in a manner more picturesque than constructive. At times, however, they exhibit such a gorgeous exuberance of fancy that it is impossible to avoid admiring, though we feel at the same time that it would be heresy to the principles of correct criticism to say that such a style was legitimate.

Among the minor examples of the age, perhaps the most remarkable is the church or chapel of San Juan de los Reyes at Toledo, built by

Ferdinand and Isabella as a sepulchral chapel for themselves, though not used for that purpose. It is thus the exact counterpart of our Henry VII.'s chapel, and of the church at Brou in Bresse. As its founders were at the time of its erection among the richest and most prosperous sovereigns in Europe, all that wealth could do was lavished on its ornamentation. It is as rich as our example, and richer than the French one. But, on the whole, the palm must be awarded the English architect. There is more constructive skill, and the construction is better expressed, at Westminster, than either at Toledo or Brou; though it is difficult not to feel that the money in all these cases might have been better expended on a larger and purer style of art.

Some parts of the church of San Miguel at Xeres exceed even this in richness and elaborateness of ornament, and surpass anything found in Northern cathedrals, unless it be the tabernacle-work of some tombs, or the screens of some chapels. In these it is always applied to small and merely ornamental parts. In Spain it is frequently spread over a whole church, and thus, what in a mere subordinate detail would be beautiful, on such a scale becomes fatiguing, and is decidedly in very bad taste.

It would be tedious to attempt to enumerate or describe the other cathedrals of Spain, or the numerous conventual or collegiate churches, many of which are still in use, with their cloisters and conventual buildings nearly complete. In this respect Spain is nearly as rich as France; while she possesses, in proportion to her population, a larger number of important parochial churches than that country, though inferior in that respect to England. The laity seem during the middle ages to have been of more importance in the Spanish Church than they were north of the Pyrenees, and the tendency of the architecture therefore was to provide for their accommodation. If, however, any such feeling then existed, it was carefully stamped out by the Inquisition after the fall of Granada. It would be interesting, however, to trace it back, and try to ascertain the cause whence it arose. Was it that the Aryan blood of the Goths was then more prevalent, and that the Iberian race has since become more dominant? Whatever the cause, it is one of those problems on which architecture may hope to throw some light, and to which, consequently, it is most desirable that the attention of architects should be turned.

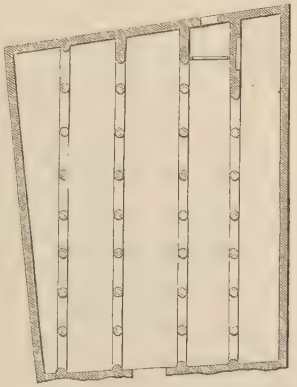
Moresco Style.

While Gothic churches were being erected under French influence in the north and centre of Spain, another style was developing itself under Moorish influence in the south, which in the hands of a more artistic people than the Spaniards might have become as beautiful as any other in Europe. It failed, however, to attain anything like com-

pleteness, primarily because the Spaniards were incapable of elaborating any artistic forms, but also perhaps because the two races came to hate one another, and the dominant people to abhor whatever belonged to those they were so cruelly persecuting.

If we knew more of the ethnic relations of the Moors, who conquered Spain in the 8th century, we might perhaps be able to predicate whether it were possible for such dissimilar parents to produce a fertile hybrid. It seems certain, however, that the Moors did not belong to any Turanian race, or traces of their tombs would be found; but none such exist. Nor did they belong to any of the great building races, for during the whole of their sojourn in Spain they showed no constructive ability, no skill in arrangement of plans, and no desire for architectural magnificence. But they were a rich, luxurious, and refined people, possessing an innate knowledge of colour and an exquisite perception of the beauty of form and detail. They were, in fact, among the most perfect ornamentists we are acquainted with, but they were not architects. Had the inhabitants of Toledo from the 11th century been French, or any Celtic race, the combination of their constructive skill with the taste in detail of the Moors could hardly have failed to produce the happiest results. As it was, after a few feeble efforts the style died out, but not without leaving some very remarkable specimens of architectural art, though on a small scale. They were also only in perishable plaster, which, though well suited to the style of the Moors, is a material which no architectural people ever would have employed.

As might be expected, the principal examples of this style are to be found in or about Toledo, but specimens exist in almost every province of Spain up to the very roots of the Pyrenees, and its influence is often felt in the extreme richness of ornamentation into which the architects of Spain were often betrayed, even when expressing themselves in Gothic or Renaissance details.



690. Sta. Maria la Blanca. From 'Mon. Arch.' Scale 50 feet to 1 in.

Among the examples at Toledo the two best interiors seem to be the church of Sta. Maria la Blanca and that of Nuestra Senora del Transito, both originally built as synagogues, though afterwards appropriated to Christian purposes. The first is said to have been erected in the 12th century, and was appropriated by the Christians in 1405. As will be seen by the plan, it is an irregular quadrangle, about 87 ft. by 65 in width across the centre, and divided into five aisles by octagonal piers supporting horse-shoe arches. Above these

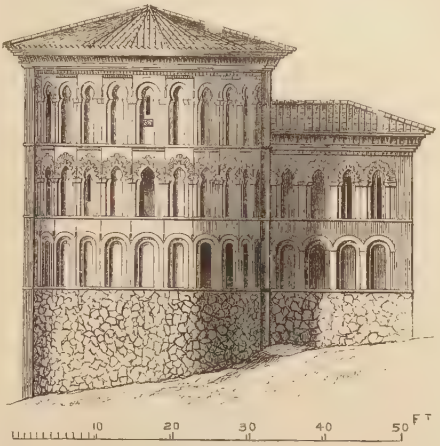
now runs what may be called a blind clerestory, though it appears as if light were originally admitted through it, by counter-sinkings in the roof, as suggested by the hypæthron of Greek temples (woodcuts Nos. 143, 146). The objects are so dissimilar that it is difficult to institute a very distinct comparison between the synagogue and a contemporary Gothic church of the same dimensions; but it may safely be said that if the northern style is grander in conception, this is far more elegant in detail: the essential difference lying in the fact that the Gothic style always had, or aimed at having, a vault, and consequently forced the

691. Sta. Maria la Blanca. From Villa Amil.

architects to work and think—the very difficulty of the task being thus the cause of its success. The Saracens in Spain, on the contrary, never attempted either a vault or a dome, but were always content with an easily-constructed wooden roof, calling for no ingenuity to design, and no thought how to convert its mechanical exigences into artistic beauties. The Moorish architects could play with their style, and consequently produced fascinating elegances of detail; the Gothic architects, on the contrary, were forced to work like men, and their result appeals to our higher intellectual wants; though in doing so they frequently

neglected the polish and lighter graces of style which are so pleasing in the semi-Asiatic art of the South of Spain.

The other synagogue—del Transito—we know was completed in 1366. It is merely a large room, of pleasing proportion, the walls of which are plain and solid up to about three-fourths of their height. Above this a clerestory admits the light in a manner singularly agreeable in a hot climate. The roof is of wood, of the form called *Artesinado* in Spain, from its being something in the form of an inverted trough—with coupled tie-beams across, so that, though elegant in detail, it has no constructive merit, and the whole depends for its effect,[1] like all Moorish work in Spain, on its ornamental details.



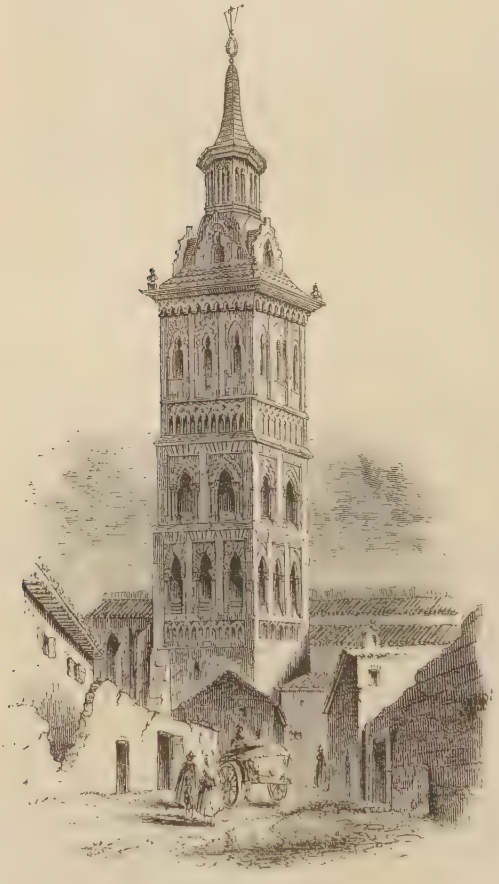
692. Apse of St. Bartolomeo. From 'Mon. Arch.' Scale 25 feet to 1 in.

693. Chapel at Humanejos. From Villa Amil.

[1] The room called Paranimfo in the University of Alcala (see woodcut 87, vol. iii.) is of precisely similar design to this, only carried out with Renaissance instead of Moorish detail.

All the churches we know of in this style date within the period comprised between the fall of Toledo (1085) and that of Granada (1492). During that time the Moors were still sufficiently powerful to be respected and their art tolerated. After their expulsion from their last stronghold, fear being removed, bigotry became triumphant, and persecution followed, not only of the people and their religion, but of everything that recalled either to remembrance.

It is possible that some larger and more important churches than those we now find were erected during this period in this style; but if so, they have perished. One of the largest at Toledo, San Bartolomeo, has an apse (woodcut No. 692), little more than 30 ft. across over all, and others, such as Santa Fé, Santa Leocadia, San Eugenio, or Santa Isabel, are all smaller, St. Ursula alone being of about the same dimensions with St. Bartolomeo. The decoration of the apse of the latter will afford a fair idea of the style of detail adopted in these churches. For brick architecture it is singularly appropriate. It admits of more or less light, as may be required. It is crowned by a cornice of pleasing profile, and the whole is simpler and better than the many-buttressed and pinnacled apses of the Gothic architects.



694. Tower at Ilescas. From Villa Amil.

A more picturesque example, though not so pure as that last quoted, is found in the little chapel of Humanejos in Estremadura (woodcut No. 693). As will be observed from the woodcut, there is some 13th-century tracery in its windows, thus revealing its date as well as betraying its origin, and but for which it might almost be mistaken for an example of pure Saracenic architecture.

This is even more the case in a beautiful chapel in the monastery of the Huelgas, near Burgos, which, were it not for some Gothic foliage of the 14th century, introduced where it can hardly be observed, might easily pass for a fragment of the Alhambra. The same is true of many parts of the churches at Seville. That of La Feria, for instance, and the apse of the church of the Dominicans at Calatayud, are purely in this style, and most beautiful and elaborate specimens of their class.

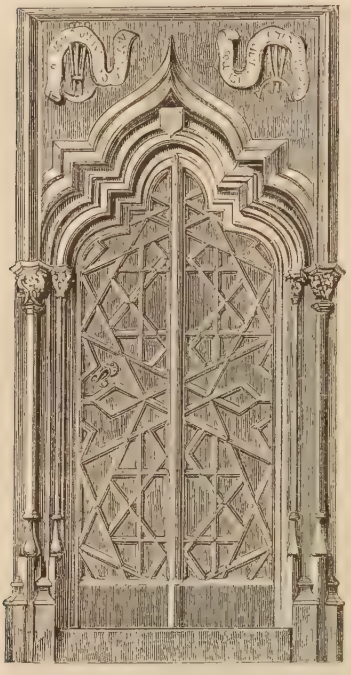
Very pleasing examples, of the adaptation of Moorish art to Christian purposes are to be found in various churches throughout Spain. That of St. Roman at Toledo[1] is a very pleasing and pure example of the style, but neither so picturesque nor so characteristic as that at Ilescas (woodcut No. 694), not far from Madrid, which, though differing essentially from any Gothic steeple, is still in every part appropriately designed, and, notwithstanding its strongly marked horizontal lines, by no means deficient in that aspiring character so admirable in Gothic steeples.

695. St. Paul, Saragoza. From Villa Amil.

Another remarkable example is the tower and roof of the church of St. Paul, Saragoza. It is so unlike anything else in Europe, that it might pass for a church in the Crimea or the steppes of Tartary. As if to add to its foreign aspect, the tiles of the roof are coloured and glazed, thus rendering the contrast with Gothic art stronger than even that presented in the details and forms of the architecture.

[1] An engraving of this tower is given in Street's 'Gothic Architecture in Spain,' page 225, accompanied with a very complete enumeration of all the examples of the style to be found in Toledo.

The church of St. Thomé at Toledo has a tower so perfectly Moorish in all its details, that but for its form it might as well be classed among the specimens of Moorish as of Mozarabic architecture. Throughout Spain there are many of the same class, which were undoubtedly erected by the Christians. Both in this country and in Sicily it is never safe to assume that because the style of a building is Moorish, even purely so, the structure must belong to the time when the Moors possessed the country, or to a happy interval, if any such existed, when a more than usually tolerant reign permitted them to erect edifices for themselves under the rule of their Christian conquerors.



696. Doorway from Valencia. From Chapuy.

Sometimes we find Moorish details mixed up with those of Gothic architecture in a manner elsewhere unknown, as for instance in the doorway, in woodcut No. 696, from the house of the Ablala at Valencia. The wood-work is of purely Moorish design, the stone-work of the bad unconstructive Gothic of the late Spanish architects, altogether making up a combination more picturesque than beautiful, at least in an architectural point of view.

CHAPTER III.

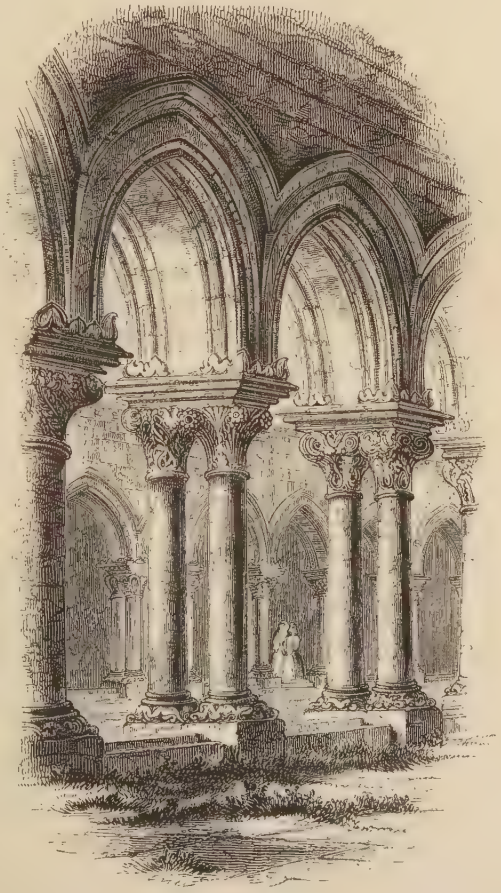
CIVIL ARCHITECTURE.

CONTENTS.

Monastic Buildings — Municipal Buildings — Castles.

Monastic Buildings.

As already mentioned, to most of the great churches described above there were attached monastic establishments on a scale commensurate with them in dignity, and ornamented in an equal degree. Most of these, too, had chapter-houses, generally square vaulted apartments, not equal in originality or magnificence with those of England, but very superior to anything found in France. The most ornamental part of these is generally the screen of triple arches by which they open on the cloister. Internally they are now generally plain, but they may have been adorned with wooden stalls and furniture, which have since disappeared.

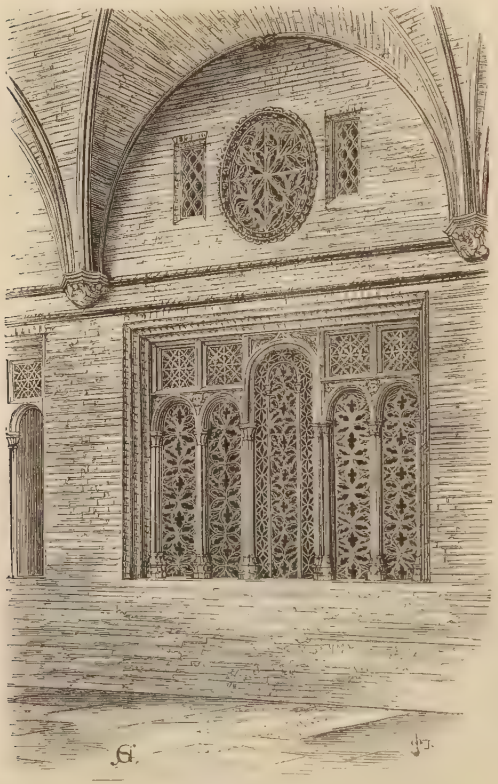


697. Cloister of the Huelgas, near Burgos. From Villa Amil.

More important than these are the cloisters to which they were attached —the *patio* of the convent, which in such a climate as that of Spain was an indispensable adjunct, and much more appropriate than a covered arcade ever was or could be in our northern climate.

The Spanish architects seem, in consequence, to have revelled in the designs of their cloisters, and from the simple arcade of Gerona (1117) to the exuberant caprice of San Juan de los Reyes, they form a series of examples completely illustrative of the progress of Spanish art: perhaps more so than even the churches to which they are attached.

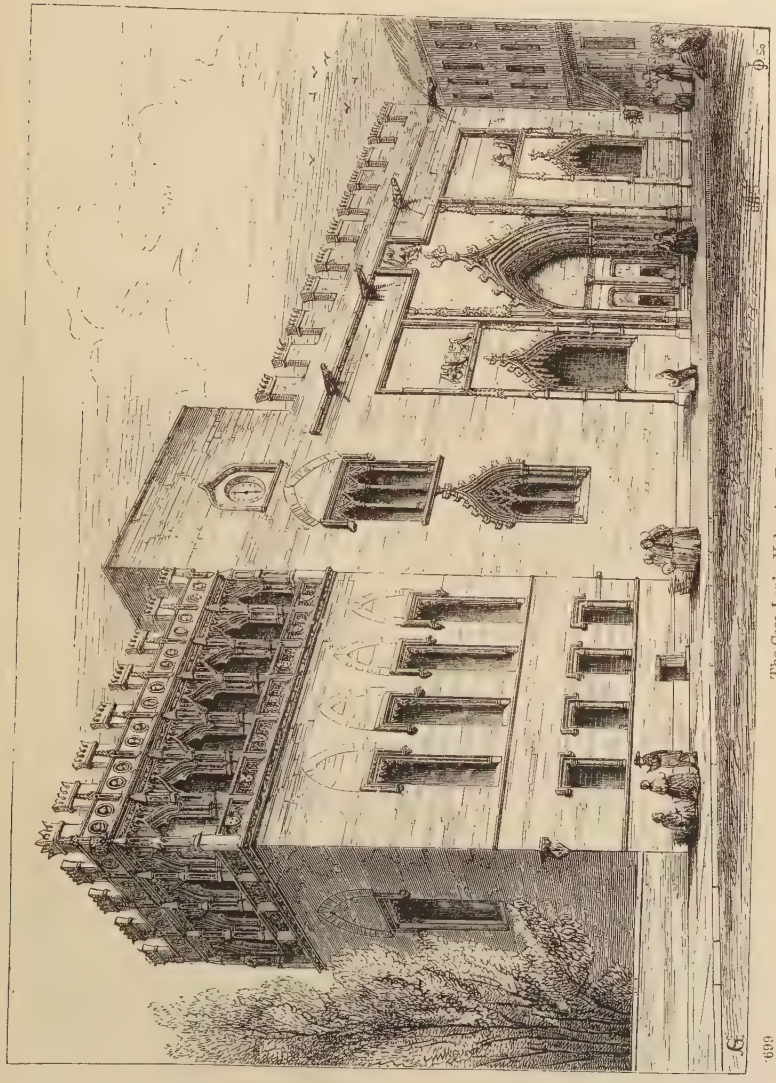
The favourite form of the earlier examples, like those in the South of France (woodcut No. 298), is that of an open arcade supported on coupled columns, on the capitals of which the architects delighted to lavish all their powers of variety and design. That at the convent of the Huelgas (woodcut No. 697), gives a fair idea of the mode in which they are carried out, and is certainly far more appropriate than the traceried arches of northern examples, which, without glazing, are most unmeaning. During the 14th and 15th centuries the Spaniards adopted them, and some of the best specimens of their traceries are to be found in the cloister arcades. Having gone so far, however, they went on, and carried the idea to its legitimate conclusion by filling up the whole opening with a screen of pierced tracery. The most complete example of this style is that found at Tarazona in Aragon. The cloister itself is in brick, but not even plastered; the openings are filled with stone slabs pierced with the most varied and elegant Gothic tracery. It would seem a more reasonable plan to have used stone for the structure and terra cotta for the openings; but as it is, the effect of the whole is extremely pleasing. It is, however, more like an Oriental than an European design, and reveals as clearly as the churches of Toledo the continued presence of the Moor in the land of Spain.



698. Cloister, Tarazona. From Street.

Municipal Buildings.

Spain does not seem to have possessed, during the middle ages, any municipalities of sufficient importance to require buildings of an important or permanent character for their accommodation. There are,



The Casa Lonja, Valencia. From Street.

it is true, one or two Lonjas, or places for the assembly of merchants, which are of some magnificence. But these were erected on the very verge of the Renaissance, and betray all the feebleness of an expiring style. That at Valencia is, perhaps, the best example. Internally it

has twisted columns similar to those at Villena (woodcut No. 689). The two buildings are said to have been designed by the same architect, but the columns in this instance are much more attenuated than in the church. The exterior has at least the merit of expressing the internal arrangements. On one side of the central tower is the great hall, on the other the public rooms, and above these an upper storey with an open arcade. The last is a feature very frequently found in Spain, not only in Mediæval palaces, but in those of the Renaissance period, and wherever it exists it is one of the most pleasing that can be found; it gives all the shadow of a cornice, without its inconvenient and useless projection, and crowns the whole design in an appropriate and pleasing manner.

CASTLES.

One example must suffice to recall attention to the fact of the existence of "Chateaux en Espagne." On the plains of Castille they are not only numerous, but of great magnificence, erected apparently before the fear of inroads from the Moors of Granada had passed away, or at all events when a military aristocracy was indispensable to save the nation from reconquest by these dreaded enemies. Of these the Kasr at Segovia is one of the best known and most frequently drawn. It has the advantage of being still inhabited, and its turrets retained, till recently, their tall conical roofs, which gave it so peculiar

700. Castle of Cocos, Castille. From Villa Amil.

and local an aspect.[1] It also possesses the advantage—rare in Spanish castles—of standing on the edge of a tall rock, to which it has been fitted with almost Oriental taste.

Another favourable specimen is the now ruined castle of Cocos. Its tall towers and clustering turrets still attest its former magnificence, and point to a local style of defensive architecture differing from that of any other part of Europe, but even more picturesque than the best examples of either France or England. The castle at Olite is still more local in its style. Many other examples might be quoted; but they hardly belong to the fine-art branch of Architecture, and thus scarcely come within the scope of this work, though a monograph of the military architecture of Spain during the middle ages would be almost as interesting as that of her ecclesiastical remains.

[1] These were destroyed by a fire which occurred about four years ago.

CHAPTER IV.

PORTUGAL.

CONTENTS.

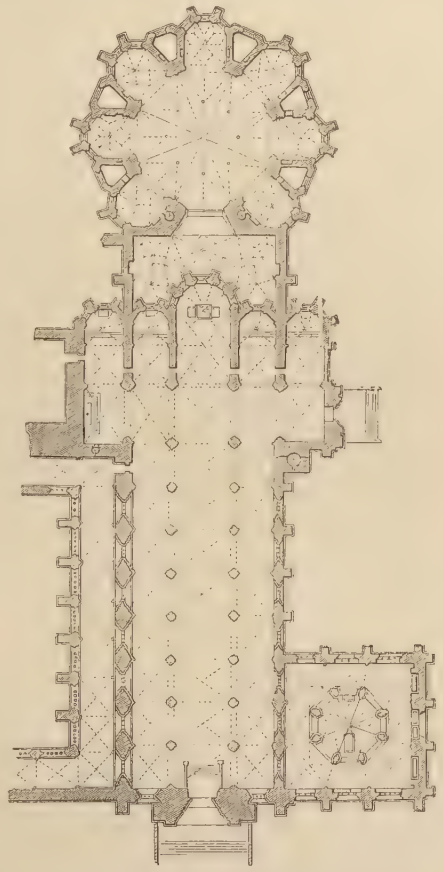
Church of Batalha — Alcobaça — Belem.

So little attention has been paid to the subject of Gothic architecture in Portugal, that it is by no means clear whether it contains any churches of interest belonging to that style. There are certainly some splendid remains at Belem near Lisbon, and fragments at least elsewhere; but those who have described them are so little qualified for the task by previous study, that it is impossible to place reliance on the correctness of their assertions regarding them. One church, however,—that at Batalha,—has met with a different fate, and having arrested the attention of Mr. Murphy, "the illustrator of the Alhambra," was drawn by him, and published in a splendid folio work at the end of the last century. As might be supposed from the date of the work, the illustrations do not quite meet the exigences of modern science, but it is at all events one of the best illustrated churches in the Peninsula, and seems in some respects to be worthy of the distinction, being certainly the finest church in Portugal.

It was erected by King John of Portugal, in fulfilment of a vow made during a battle with his namesake of Spain in the year 1385, and was completed in all essentials in a very short period of time. From the plan (woodcut No. 701) it will be seen that the form of the original church is that of an Italian basilica—a three-aisled nave ending in a transept with five chapels; the whole length internally being 264 ft., and the width of the nave 72 ft. 4 in. It is therefore a small building compared with most of the Gothic churches hitherto described. To the right of the entrance, under an octagonal canopy which once supported a German open-work spire, are the tombs of the founder and of his wife Philippa, daughter of John of Gaunt; beyond this the octagon expands into a square, in a very Eastern fashion, to accommodate the tombs of other members of the royal family who are buried around. The whole design of this part is one of the most suitable for a family sepulchre to be found anywhere. The wonder, however, of the Batalha, or rather what would have been so had it been completed, is the tomb-house which Emanuel the Fortunate commenced for himself at the

east end of the church. Similar chapels at Burgos and Murcia have already been noticed, but this was to have surpassed them all, and if completed would have been the most gorgeous mausoleum erected during the middle ages.

It is curious to observe how the tradition of the circular tomb-house behind the altar remained constant in remote provinces to the latest age. The plan of this church is virtually that of St. Martin at Tours, of St. Benigne at Dijon (woodcuts Nos. 314, 316), and of other churches in Aquitania. It is easy to see how by removing the intermediate walls this basilica would become a chevet church, complete except for the difference in the span of the two parts. Had the mausoleum been finished, the wall separating it from the church would not improbably have been removed.



701. Plan of the Church at Batalha. From Murphy. Scale 100 ft. to 1 in.

The plan of this tomb-house is interesting as being that of the largest Gothic dome attempted, and as showing how happily the Gothic forms adapt themselves to this purpose, and how easily any amount of abutment may be obtained in this style with the utmost degree of lightness and the most admirable play of perspective; indeed no constructive difficulties intervene to prevent this dome having been twice its present diameter (65 ft.); in which case it would have far surpassed Sta. Maria del Fiore and all the pseudo-classical erections that have since disfigured the fair face of Europe.

Generally speaking, neither the proportions nor the details of this church are good; it was erected in a country where the principles of Gothic art were either misapprehended or unknown, and where a lavish amount of expenditure in carving and ornament was thought to be the best means of attaining beauty. The church from this cause

may almost be considered a failure: its two sepulchral chapels being in fact by far the most interesting and beautiful parts of the structure. It may be observed also that the open-work spire agrees much better with the semi-Oriental decoration of the churches both of Burgos and Batalha than with the soberer forms of the more Northern style. One is almost tempted to fancy that the Germans borrowed the idea from Spain rather than that Spain imported it from the North. Till we know more of the age of the cathedrals of Leon, Oviedo, and other cities in the north of Spain, the point cannot be determined; but it seems by no means certain but that further knowledge will compel the Germans to resign their claim to this their single alleged invention in the pointed style.

Next in importance to the church at Batalha is that at Alcobaça, commenced in the year 1148, and finished in 1222. It is a simple and grand Cistercian abbey-church, not unlike that at Pontigny (woodcut No. 382) in style. Its total length is 360 feet; its height about 64. The nave is divided from the side-aisles by 12 piers, the arches of which support vaults of the same height over the three divisions—a circumstance which must detract considerably from the beauty of its proportions. The east end is terminated by a chevet (called by the Portuguese a *charola*) with 9 chapels.

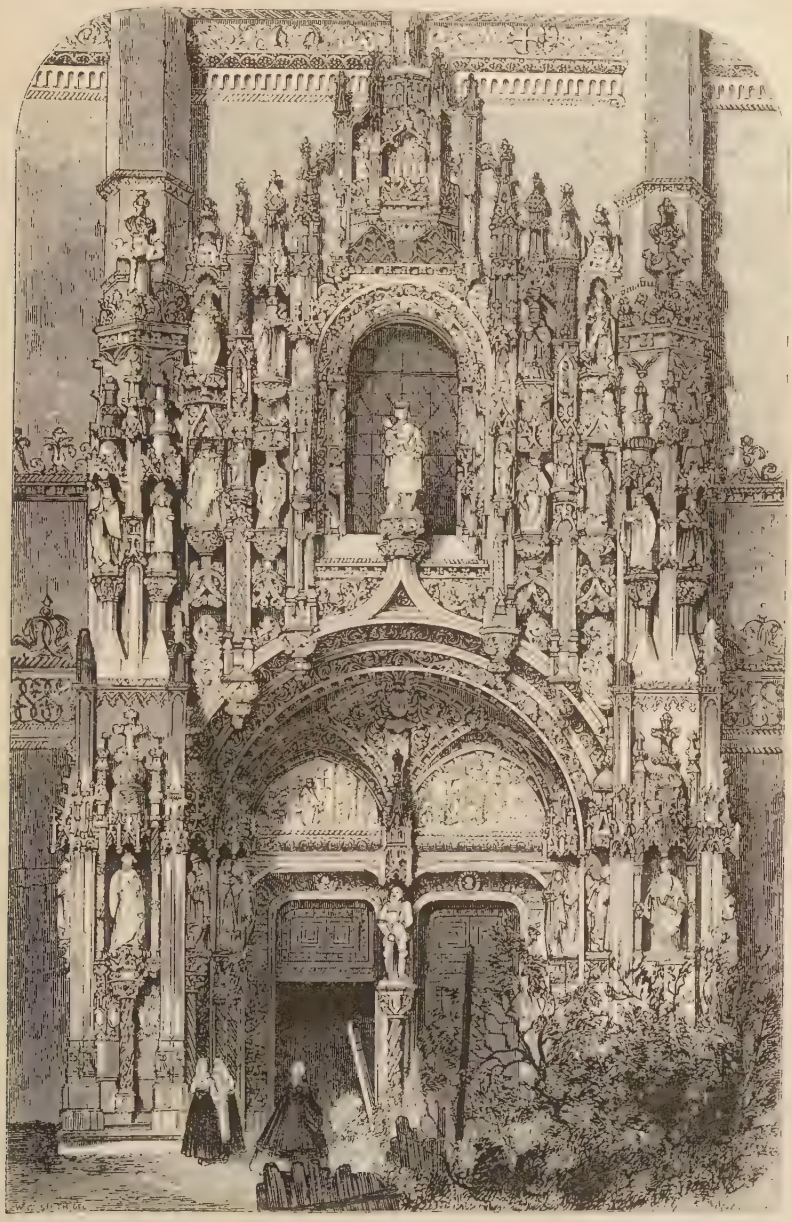
The monastery attached to this church, formerly one of the most splendid in the world, was burnt by the French in their retreat from Portugal.

At Coimbra there are still some remains of Gothic churches; the principal of these is the old cathedral, which, though much destroyed, still retains many features belonging to the same age as that of Alcobaça.

In the same town is the church of Sta. Cruz, rebuilt by French architects in the year 1515, in the then fashionable flamboyant style of their country; and in complete contrast to this is the small but interesting Round Gothic church of St. Salvador, erected about the year 1169.

The church of the Convent at Belem near Lisbon, though one of the latest, was intended by its founder, Emmanuel the Fortunate, to be one of the most splendid in the kingdom. It was commenced in 1500, but not finished till long after the Renaissance had set in, so that (in the interior especially) it is very much disfigured by incongruities of every sort. The southern portal, however, is wholly in the style of the first years of the 16th century, and is as elaborate an example of the exuberant ornamentation of that age as can be found in the Peninsula. It is, of course, full of faults, and by no means worthy of imitation; but its richness in figure sculpture and in architectural carving is very impressive and pleasing, in spite of all that can be said against its taste.

No one who is familiar with the chapel at Roslyn can fail to recognise at once the similarity of design and detail between the two. The



702. Façade at Belem. From a Photograph.

Portuguese example is half a century more modern, for which allowance must be made. It is also more delicate, as the work of a Southern

people might be expected to be. Moreover, it is the work of men among whom the style arose, and who consequently were more at home in it than the Scotch builder could pretend to be; but, notwithstanding all these deductions, there is a similarity between the style of the two buildings so remarkable as to leave no doubt of their common origin.

The other churches of Portugal, such as those of Braga, Guimaraens, &c., seem to have been of late flamboyant style, and generally are so much modernised that the little beauty they ever possessed is concealed or destroyed by modern details.

Notwithstanding the late age of the principal examples and the apparent paucity of those of an earlier age, it is still possible that Portugal may contain much to interest the archæologist. But travelling has hitherto been inconvenient and slow in that country, and it has not yet been visited, or at least described, by any one familiar with the peculiarities of mediæval art. When properly explored, we may be surprised at the results it contains. On the other hand, it is by no means impossible that the 'Handbook of Portugal' is correct when it asserts that "There is no European country which has less interesting ecclesiology than Portugal. There are certainly not 150 old churches in the kingdom. The French invasion, the great earthquake, and the rage for rebuilding in the 18th century, have destroyed nearly all."

Let us hope it may not be so, but at present we have little beyond the hope to rely on.

BOOK VIII.

ITALY.

CHAPTER I.

INTRODUCTORY.

CONTENTS.

Division and Classification of the Mediæval Styles of Architecture in Italy.

CHRONOLOGY.

Charlemagne	A.D. 768	Henry IV.	1056
Henry the Fowler	918	Henry V.	1106
Otho the Great	936	Lothaire II.	1125
Otho II.	973	Conrad III.	1138
Otho III.	983	Frederick Barbarossa	1152
Henry II.	1002	Henry VI.	1190
Conrad II.	1024	Frederick II.	1212
Henry III.	1039	Conradin	1250

If a historian were to propose to himself the task of writing a tolerably consecutive narrative of the events which occurred in Italy during the middle ages, he would probably find such difficulties in his way as would induce him to abandon the attempt. Venice and Genoa were as distinct states as Spain and Portugal. Florence, the most essentially Italian of the republics, requires a different treatment from the half German Milan. Even such neighbouring cities as Mantua and Verona were separate and independent states during the most important part of their existence. Rome was, during the whole of the Middle Ages, more European than Italian, and must have a narrative of her own; Southern Italy was a foreign country to the states of the north: and Sicily has an independent history.

The same difficulties, though not perhaps to the same degree, beset the historian of art, and, if it were proposed to describe in detail all the varying forms of Italian art during the middle ages, it would be necessary to map out Italy into provinces, and to treat each almost as a separate kingdom by itself. In this, as in almost every instance, however, the architecture forms a better guide-line through the tangled mazes of the labyrinth than the written record of political events, and those who can read her language have before them a more trustworthy and vivid picture of the past than can be obtained by any other means.

The great charm of the history of mediæval art in England is its unity. It affords the picture of a people working out a style from chaos to completeness, with only slight assistance from those in foreign countries engaged in the same task. In France we have two elements, the old southern Romanesque long struggling with the northern Celtic, and unity only obtained by the suppression of the former, wherever they came in contact. In Italy we have three elements,—the Roman, the Gothic, and the Byzantine,—sometimes existing nearly pure, at others mixed, in the most varying proportions, the one with the other.

In the north, the Gothic element prevailed nearly pure, except in so far as it was based on a Romanesque element, and was practised by a people who still clung to the traditions of imperial Rome, and who consequently allowed the classical forms to influence their art, throughout the middle ages, to a far greater extent than was the case on this side of the Alps.

In the south, the Byzantine forms prevailed, partly because the art was there based on the traditions of Magna Grecia, and more, perhaps, from the intimate connection that existed between Apulia and the Peloponnesus during the middle ages.

Between the two stood Rome, nearly unchanged and unchangeable—the three terms, Roman, Romanesque, and Renaissance comprise all the variation she submitted to. In vain the Byzantine besieged her on the south and the Gothic on the north. Their waves spent themselves on her rock without producing much impression, while her influence extended more or less over the whole peninsula. It was distinctly felt at Florence on the north, and at Pisa on the west, though these conquests were nearly balanced by the Byzantine influence which is so distinctly felt at Venice or Padua on the east coast.

The great difficulty in the attempt to reconcile these architectural varieties with the local and ethnographical peculiarities of the people—a difficulty which at first sight appears all but insuperable—is, that sometimes all three styles are found side by side in the same city. This, however, constitutes, in reality, the intrinsic merit of architecture as a guide in these difficulties. What neither the language of the

people nor their histories tell us, their arts proclaim in a manner not to be mistaken. Just in that ratio in which the Roman, Byzantine, or Gothic style prevails in their churches, to that extent did either of these elements exist in the blood of the people. Once thoroughly master the peculiarities of their art, and we can with certainty pronounce when any particular race rose to power, how long its prevalence lasted, and when it was obliterated or fused with some other form.

There is no great difficulty in distinguishing between the Byzantine and the other two styles, though it is only after reading the next Book of this work that its peculiarities can be fully explained. Meanwhile, however, there is no difficulty in distinguishing between the Gothic and Byzantine form of dome. The latter is almost always rounded externally, the former always straight-lined. Again: the Byzantine architects never used intersecting vaults for their naves. If forced to use a pointed arch, they did so unwillingly, and it never fitted kindly to their favourite circular forms; the style of their ornamentation was throughout peculiar, and differed in many essential respects from the other two styles.

It is less easy always to discriminate between the Gothic and Romanesque in Italy. We frequently find churches of the two styles built side by side in the same age, both using round arches, and with details not differing essentially from one another. There is one test, however, which is probably in all cases sufficient. Every Gothic church had, or was intended to have, a vault over its central aisle. No Romanesque church ever attempted it. The importance of the distinction is apparent throughout. The Gothic churches have clustered piers, tall vaulting-shafts, external and internal buttresses, and are prepared throughout for this necessity of Gothic art. The Romanesque churches, on the contrary, have only a range of columns, generally of a pseudo-Corinthian order, between the central and side aisles; internally no vaulting-shafts, and externally only pilasters. Had these architects been competent, as the English were, to invent an ornamental wooden roof, they would perhaps have acted wisely; but though they made several attempts, especially at Verona, they failed signally to devise any mode either of hiding the mere mechanical structure of their roofs or of rendering them ornamental.

As before pointed out,[1] vaulting was the real formative idea of the Gothic style, and it continued to be its most marked characteristic during the continuance of the style, not only in Italy, but throughout all Europe.

As it is impossible to treat of these various styles in one sequence, various modes of precedence might be adopted, for each of which good

[1] Vol. i. p. 380 et seq.

reasons could be given, but the following will probably be found most consonant with the arrangement elsewhere adopted in this work:—

First, to treat of the Gothic styles of northern Italy, because they complete our history of the style in Europe, and directly connect the countries on either side of the Alps; thus concluding the one branch of our subject and introducing the next.

Secondly, to take up the mediæval Romanesque where we left that style in a previous chapter, and to point out the few remaining peculiarities which have not yet been described.

Lastly, to describe the Byzantine art as it was practised in the south of Italy: thus continuing the sequence up to the next Book, and leading the history by an easy gradation from the true Gothic of the West to the true Byzantine of the East.

Sicily will demand a chapter to herself; not only because a fourth element is introduced there in the Saracenic—which influenced her style almost as much as it did that of the south of Spain—but because such pointed Gothic as she possesses was not German, like that of northern Italy, but derived far more directly from France, under either the Norman or Angiovine dynasties.

CHAPTER II.

LOMBARD AND ROUND-ARCHED GOTHIC.

CONTENTS.

Chapel at Friuli — Churches at Piacenza, Asti, and Novara — St. Michele, Pavia — St. Ambrogio, Milan — Cathedral, Piacenza — Churches at Verona — Circular Churches — Towers.

When, in the early centuries of the Christian era, the great mass of Gothic barbarism moved up the Valley of the Danube towards the west, one great division followed that river to its source, and thence penetrated into and settled in the Valley of the Rhine. They were sufficiently numerous to be able almost wholly to obliterate all traces of former civilization, and to invent that original style of architecture whose history was sketched in the fourth Book of this work.

The other great division of the horde turned the Sömmering Alps and penetrating into Italy by way of Udine and Conegliano, settled in the Valley of the Po. They may have been as numerous as the others; but Italy in those days was far more densely peopled than Germany, and the inhabitants were consequently able to resist obliteration far more successfully than on the north of the Alps, and even where the new element prevailed most strongly its influence was far less felt than in the more sparsely peopled Rhenish provinces. This was generally more apparent along the coast than in the interior. Venice long resisted, though Ravenna was overwhelmed. Pisa and Lucca resisted throughout. Florence was divided. The Barbarian influence was strongly felt at Siena, more feebly at Orvieto; but there it was stopped by the influence of Rome, which throughout the middle ages remained nearly uncontaminated.

Notwithstanding the almost insuperable barrier of the Alps which stretched between them and the different influences to which they were subjected, the connexion between the northern and southern hordes remained intimate during the whole of the middle ages. Milan was as much German as Italian; and, indeed, except from a slightly superior degree of elegance in the southern examples, it is sometimes extremely difficult to distinguish between the designs of Lombard and of Rhenish churches. As the middle ages wore on, however, the breach between the two styles widened, and there is no difficulty, in the later pointed schools, in seeing how Italy was gradually working itself free from

German influence, till at last they became distinct and antagonistic nationalities, practising two styles of art, which had very little in common the one with the other.

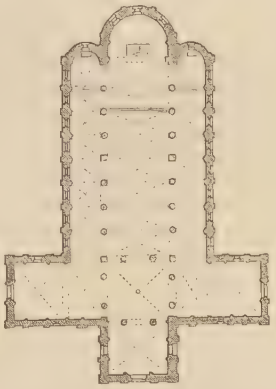
Whoever the Barbarians were who in the 5th and 6th centuries swarmed into Italy—Austro-Goths, Visi-Goths, or Lombards—they certainly did not belong to any of the great building races of the world. Few people ever had better opportunities than they of employing their easily acquired plunder in architectural magnificence, if they had any taste that way; but, though we hear everywhere of the foundation of churches and the endowment of ecclesiastical establishments during the Carlovingian period, not one important edifice of that age has come down to our time. The monumental history of the Round Gothic style is as essentially a blank in Italy as it is in Saxon England. One or two circular buildings remain tolerably entire; some small chapels let us into the secrets of the style, but not one important edifice of any sort attests the splendour of the Lombard kingdom of Northern Italy. Aryans they must have been, and it was not till the beginning of the 11th century, when their blood was thoroughly mixed with that of the indigenous inhabitants and a complete fusion of races had taken place, that we find buildings of a monumental character erected, which have come down to the present day.

703. Chapel at Friuli. From Gailhabaud.

Among the smaller monuments of the age none has been preserved more complete and less altered than the little chapel at Friuli; which, though extremely small (only 18 ft. by 30 inside the walls), is interesting, as retaining all its decorations almost exactly as they were left by Gertrude, duchess of Friuli, who erected it in the 8th century. It shows considerable elegance in its details, and the sculpture is far better than it afterwards became, though perhaps its most remarkable peculiarity is the intersecting vault that covers it—*pulchre testudinatum*, as the old chronicle terms it. This is one proof among many, how early that feature was

introduced which afterwards became the formative principle of the whole Gothic style, and was as essentially its characteristic as the pillars and entablatures of the five orders were the characteristics of the classical styles of Greece and Rome. As before remarked, it is this necessity for a stone roof that was the problem to be solved by the architects, and to accomplish which the style took almost all those forms which are so much admired in it.

From this example of the Carlovingian era we are obliged to pass to the 11th and 12th centuries, the first great building age of the Gothic nations. It is true, that there is scarcely a single important church in Pavia, in Verona, or indeed in any of the cities of Lombardy, the original foundation of which cannot be traced back to a much earlier period. Before the canons of architectural criticism were properly understood, antiquaries were inclined to believe that in the buildings now existing they saw the identical edifices erected during the period of the Lombard sway. Either, however, in consequence of the rude construction of the earlier buildings, or because they were too small or too poor for the increased population and wealth of the cities at a later period, every one of the original churches has disappeared and been replaced by a larger and better constructed edifice, adorned with all the improvements which the experience of centuries had introduced into the construction of religious edifices.



704. Plan of San Antonio, Piacenza, From Osten.[1] Scale 100 ft. to 1 in.[2]

Judging from the rudeness of the earliest churches which we know to have been erected in the 11th century, it is evident that the progress made, up to that period, was by no means equal to what was accomplished during the next two centuries.

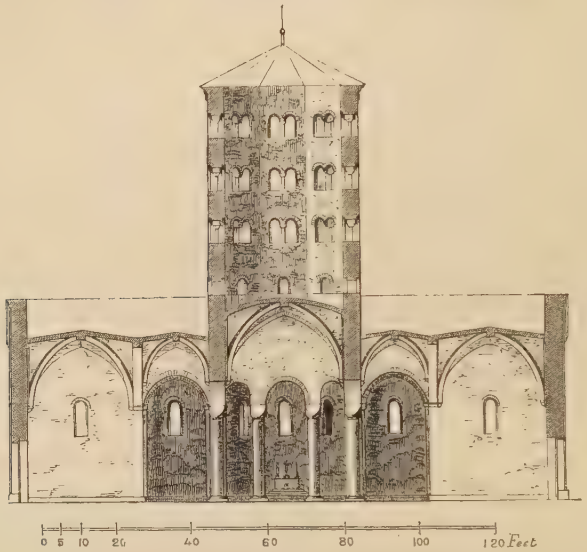
This will appear from the plan and section of St. Antonio at Piacenza (woodcuts Nos. 704 and 705), built in the first years of the 11th century, and dedicated in 1014 by the bishop Siegfried.

Its arrangement is somewhat peculiar; the transepts are near the west end, and the octagonal tower rising from the intersection is supported on 8 pillars, the square being completed by 4 polygonal piers. The principal point, however, to observe is, how completely the style has emancipated itself from all Roman tradition. A new style has grown up as essentially different from the Romanesque as the style of Cologne or York cathedral. The architect is once more at liberty

[1] Frederick von Osten, 'Bauwerke in der Lombardei.' Darmstadt, 1852.

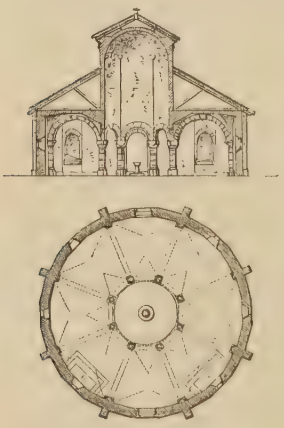
[2] By an oversight of the engraver, the vault of the nave, which ought to be made hexapartite, is drawn as quadripartite.

to work out his own designs without reference to anything beyond the exigencies of the edifices themselves. The plan, indeed, is still a reminiscence of the Romanesque; but so are all the plans of Mediæval cathedrals, and we may trace back the forms of the pillars, the piers, and the arches they support, to the preceding style. All these



705. Section of Church of San Antonio at Piacenza. From Osten.

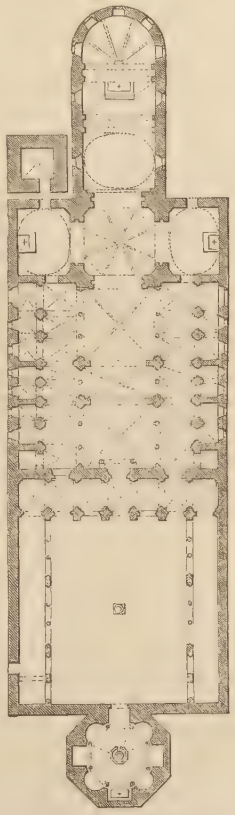
are ultimately derived from Roman art, but the originals are forgotten, and the new style is wholly independent of the old one. The whole of the church too is roofed with intersecting vaults, which have become an integral part of the design, giving it an essentially Gothic character. On the outside, buttresses are introduced, timidly, it is true, but so frequently, as to make it evident that already there existed no insuperable objection to increase either their number or depth, as soon as additional abutment was required for wider arches.



706. Section and Plan of Baptistery at Asti. From Osten. Scale 50 ft. to 1 in.

The windows, as in all Italian churches, are small, for the Italians never patronized the art of painting on glass, always preferring frescoes or paintings on opaque grounds. In their bright climate, very small openings alone were requisite to admit a sufficiency of light without disturbing that shadowy effect which is so favourable to architectural grandeur.

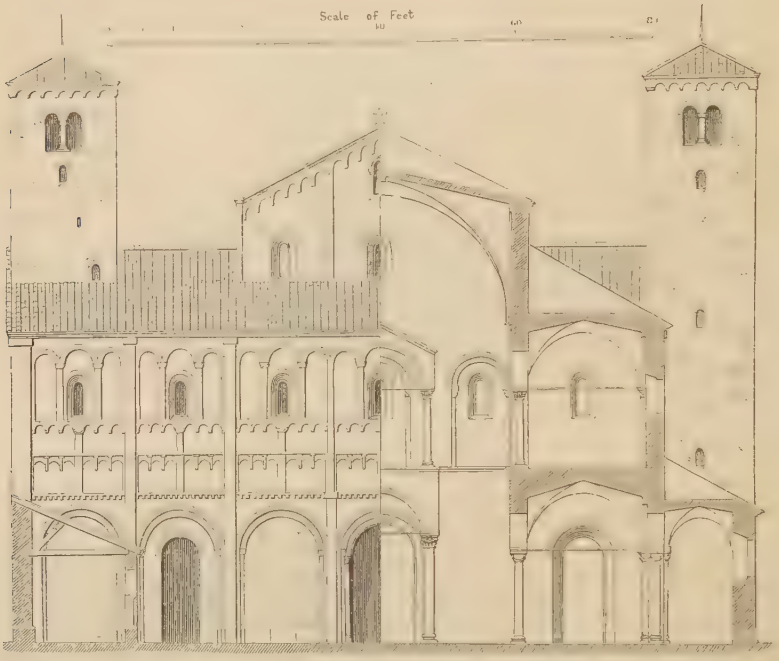
Being a parochial church, this building had no baptistery attached to it; but there is one at Asti (woodcut No. 706) so similar in style and age, that its plan and section, if examined with those of San Antonio, will give a very complete idea of Lombard architecture in the beginning of the 11th century, when it had completely shaken off the Roman influence, but had not yet begun to combine the newly invented forms with that grace and beauty which mark its more finished examples. One peculiarity of this building is the gloom that reigns within, there being absolutely no windows in the dome, and those in the aisles are so small, that even in Italy the interior must always have been in comparative darkness.



707. Plan of the Cathedral at Novara. Scale 100 ft. to 1in.

The cathedral of Novara, which in its present state is one of the most important buildings of the 11th century in the north of Italy, shows the style still further advanced. The coupling and grouping of piers are here fully understood, and the divisions of the chapels which form the outer aisle are, in fact, concealed buttresses. The Italians were never able to divest themselves of their partiality for flat walls, and never liked the bold external projections so universally admired on the other side of the Alps. They therefore gladly had recourse to this expedient to conceal them; and when this was not available they used metallic ties to resist the thrust of the arches—an expedient which is found even in this example. As will be seen from the annexed plan, the atrium connecting the basilica with the baptistery is retained, which seems to have been an arrangement almost universal in those early times. The half-section half-elevation of the front (woodcut No. 708) shows very distinctly how far the invention of the new style had then gone; for except some Corinthian pillars, borrowed from an older edifice, no trace of Romanesque architecture is to be found in it. The design of the façade explains what it was that suggested to the Pisan architects the form to which they adapted their Romanesque details. In both styles the arcade was the original model of the whole system of ornamentation. In this case it is used first as a discharging arch, then as a mere repetition of a useful member, and lastly without pillars, as a mere ornamental string-course, which afterwards became the most favourite ornament, not only in Italy, but throughout all Germany.

Interesting as such an example is to the architectural antiquary who is tracing back and trying to understand the forms of a new style, it would be difficult to conceive anything much uglier and less artistic than such a façade as this of Novara or that of San Antonio, last quoted. Their sole merit is their history and their expression of rude energy, so characteristic of the people who erected them.

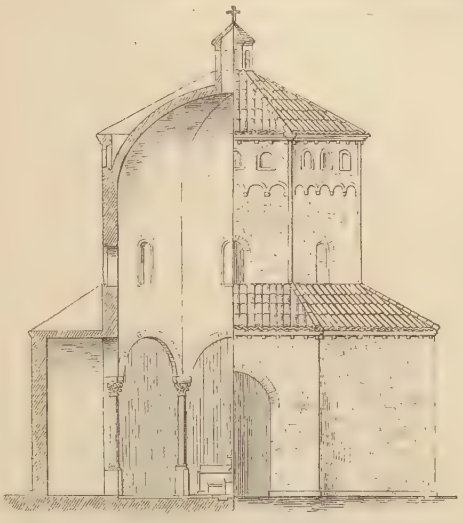


708. Elevation and Section of the Façade of the Cathedral at Novara. From Osten.

The baptistery is older than the cathedral, probably as old as the age of Charlemagne; and if it had any features which could properly be called architectural, it ought perhaps to rank among Romanesque buildings. In plan it certainly belongs to that style. Its chief point of interest, however, is that it contains the germ of those external galleries under the roof which form not only one of the most common but also one of the most beautiful features of the class of buildings we are now considering.

From the elevation (woodcut No. 709) it will easily be seen what was the motive and use of this arrangement, the first trace of which dates perhaps as far back as the baptistery at Nocera (woodcut No. 273); for wherever a wooden roof was placed over a circular vault, it is evident that the external walls must be carried up higher than the springing of the arch. But it was by no means necessary that this additional wall should be so solid as that below it, and it was

necessary to introduce light and air into the space between the stone and the wooden roofs. Add to this the incongruity of effect in placing a light tiled wooden roof on a massive solid wall, and it will be evident that not only did the exigences of the building, but the true principles of taste, demand that this part should be made as light as possible. Such openings as these found in the baptistery at Novara suggested an expedient which provided for these objects. This was afterwards carried to a much greater extent. At first, however, it seems only to have been used under the roofs of the domes with which the Italians almost universally crowned the intersections of naves and transepts, and round the semidomes of the apses: but so enamoured did they afterwards become of this feature, that it is frequently carried along the sides of the churches, under the roof of the nave and of the aisles, and also—where the taste of it is more questionable—under the sloping eaves of the roof of the principal façade.



709. Half Section, half Elevation, of the Baptistery at Novara. From Osten. No scale.

There is nothing in the style of which we are now speaking either so common or so beautiful as these galleries, the arcades of which have all the shadow given by a cornice without its inconvenient projection, while the little shafts with their elegant capitals and light archivolts have a sparkle and brilliancy which no cornice ever possessed. Indeed, so beautiful are they, that we are not surprised to find them universally adopted; and their discontinuance on the introduction of the pointed style was one of the greatest losses sustained by architectural art in those days. It is true they would have been quite incompatible with the thin walls and light piers of pointed architecture; but it may be safely asserted that no feature which those new styles introduced was equally beautiful with these galleries which they superseded.

The church of San Michele at Pavia, which took its present form either at the end of the 11th or beginning of the 12th century, is one of the most interesting of this age, and presents in itself all the characteristics of a perfect round-arched Gothic church. Indeed there is hardly any feature worth mentioning which was invented after this date except the pointed arch—a very doubtful improvement—and

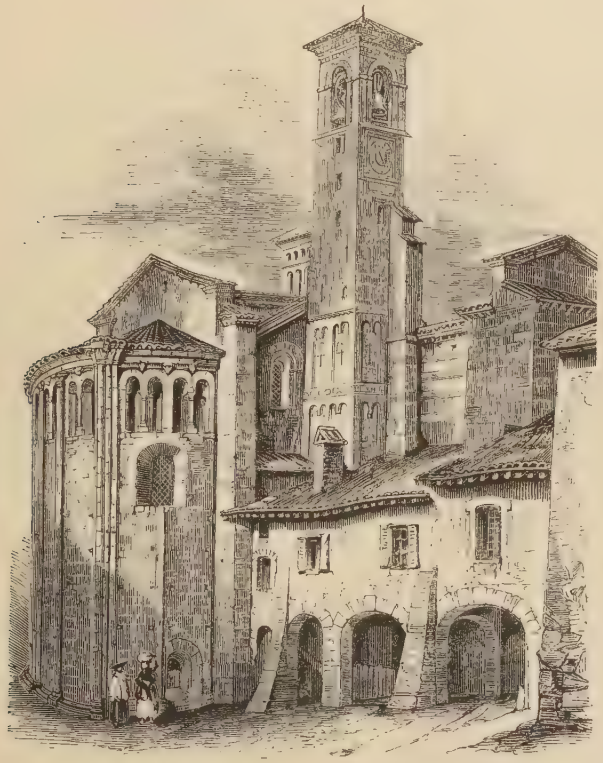
window tracery, which the Italians never cordially adopted or understood. The section (woodcut No. 710) shows the general arrangement of San Michele, from which it will be seen that well-marked vaulting-shafts spring from floor to roof, that the pier arches in the wall are perfectly distinct and well understood, and that the angles of the piers are softened and ornamented by shafts and other subordinate members. Altogether, it is evident that that subdivision of labour (if I may use the expression) which was so characteristic of the true Gothic style had here been perfectly understood, every part having its own function and telling its own story. To complete the style only required a little experience to decide on the best and most agreeable proportions in size and solidity. In a century from the date of this church the required progress had been made; a century later it had been carried too far, and the artistic value of the style was lost in mere

710. Section of San Michele, Pavia. From Agincourt. No scale.

masonic excellence. San Michele and the other churches of its age fail principally from over-heaviness of parts and a certain clumsiness of construction, which, though not without its value as an expression of power, wants the refinement necessary for a true work of art. Externally, one of the most pleasing features of this church is the apse with its circular gallery. In Italian churches the gallery is usually a simple range of similar arcades: here, however, it is broken into three great divisions by coupled shafts springing from the ground, and these again subdivided by single shafts running in like manner through the whole height of the apse. The gallery thus not only becomes a part of the whole design, instead of looking like a possible afterthought, but an agreeable variety is also given, which adds not a little to the pleasing effect of the building.

There are at least two other churches in Pavia which, though

altered in many parts, retain their apsidal arrangements tolerably perfect. One of these, that of San Teodoro, may be somewhat older than the San Michele, and has its gallery divided into triplets of arcades by bold flat buttresses springing from the ground. The other, San Pietro in Cielo d'Oro, is considerably more modern, the arcade being omitted round the apse, though introduced in the central dome. It has besides two subordinate apses of graceful design, but inferior to the older examples.

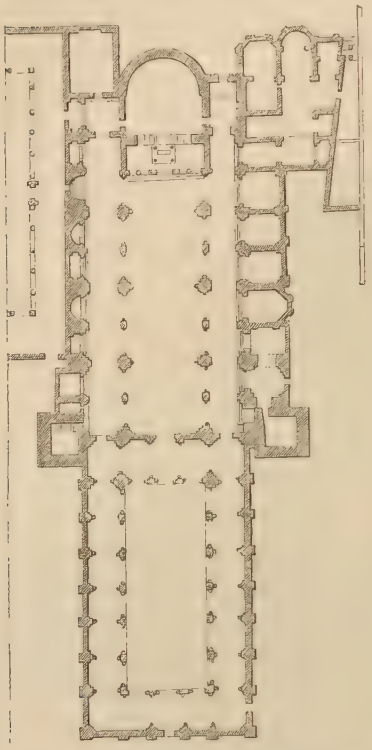


711. View of the Apse of San Michele, Pavia. From Du Somerard, 'Les Arts au Moyen Age.'

Though Milan must have been rich in churches of this age, the only one now remaining tolerably entire is San Ambrogio, which is so interesting as almost to make amends for its singularity. Historical evidence shows that a church existed here from a very early age. It was rebuilt in the 9th century by Bishop Anspertus, aided by the munificence of King Louis the Pious; but except the apse and the older of the two towers—that called "the canons'"—nothing remains of even that church, all the rest having been rebuilt in the 12th century. The vaulting of the church, which is extremely

clumsy, and clumsily fitted to the substructure, is the work of the 13th century.

The disposition of the building will be understood from the following plan, which shows both the atrium and the church. The former is virtually the nave; in other words, had the church been erected on the colder and stormier side of the Alps, a clerestory would have been added to the atrium, and it would have been roofed over; and then the plan would have been nearly identical with that of a Northern cathedral. If, besides this, there had been a baptistery at the western entrance, as at Novara, Piacenza, or Torcello, we should have had a building with two apses—a complete German cathedral. As it is, the atrium (woodcut No. 713) is a highly pleasing adjunct to the façade, removing the church back from the noisy world outside, and by its quiet seclusion tending to produce that devotional feeling so suitable to the entrance of a place of worship. The façade of the building itself, though, like the atrium, only in brick, is one of the best designs of its age, the upper loggia, or open gallery of five bold but unequal arches, producing more shadow than the façade at Pisa, without the multitude of small parts there crowded together, and with far more architectural propriety and grace. As seen from the atrium with its two towers, one on either flank, it forms a composition scarcely surpassed by any other in this style.



712. Plan of San Ambrogio, Milan. From Ferrario. Scale 10. ft. to 1 in.

Owing to the bad arrangement of the vaulting, the internal architecture of the church is hardly worthy of its exterior; but it is a perfect museum of ecclesiological antiquities of the best class. The silver altar of Angilbertus (A.D. 835) is unrivalled either for richness or beauty of design by anything of the kind known to exist elsewhere, and the *baldachino* that surmounts it is also of singular beauty: so are some of its old tombs, of the earliest Christian workmanship. Its mosaics, its pulpit, and the bronze doors, not to mention the brazen serpent—said to be the very one erected by Moses in the wilderness

—and innumerable other relics, make this church one of the most interesting of Italy, if not indeed of all Europe.

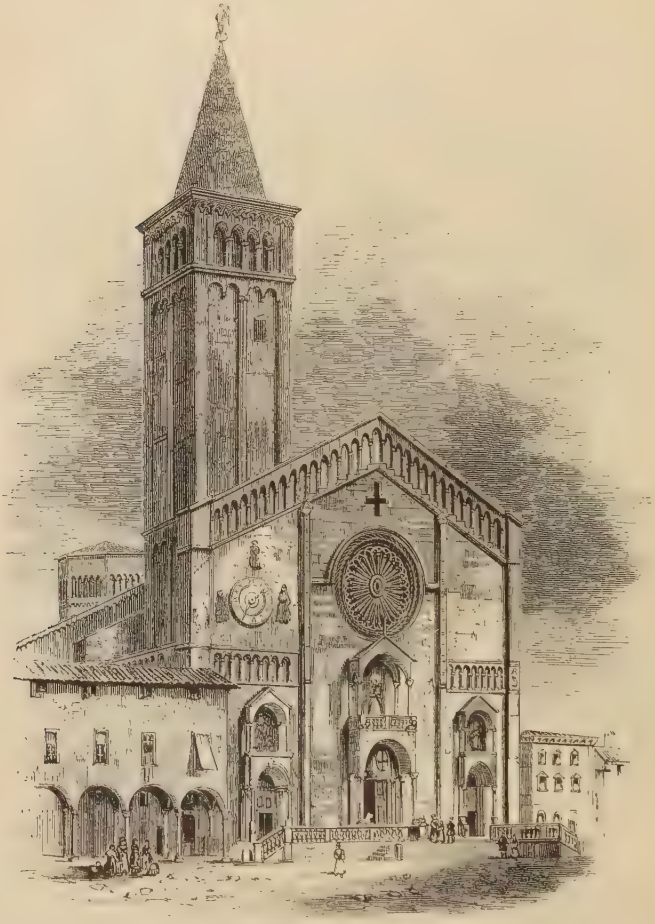
Generally speaking, the most beautiful part of a Lombard church is its eastern end. The apse with its gallery, the transepts, and above all the dome that almost invariably surmounts their intersection with the choir, constitute a group which always has a pleasing effect, and is very often highly artistic and beautiful. The sides of the nave, too, are often well designed and appropriate; but, with scarcely a

713. Atrium of San Ambrogio, Milan. From Ferrario.[1]

single exception, the west end, or entrance front, is comparatively mean. The building seems to be cut off at a certain length without any appropriate finish, or anything to balance the bold projections towards the east. The French cathedrals, on the contrary, while they entirely escape this defect by means of their bold western towers, are generally deficient in the eastern parts, and almost always lack the central dome or tower. The English Gothic architects alone

[1] Ferrario, 'Monumenti Sacri e Profani dell' I. R. Basilica di S. Ambrogio.' Milan, 1824.

understood the proper combination of the three parts. The Italians, when they introduced a tower, almost always used it as a detached object, and not as a part of the design of the church. In consequence of this the façades of their churches are frequently the least happy parts of the composition, notwithstanding the pains and amount of ornament lavished upon them.



714. Façade of the Cathedral at Piacenza. From Chapuy, 'Moyen Age Monumental.'

The elevation of the cathedral at Piacenza is a fair illustration of the general mode of treating the western front of the building, not only in the 11th and 12th centuries, but afterwards, when a church had a façade at all—for the Italians seem to have been seldom able to satisfy themselves with this part of their designs, and a great many of their most important churches have, in consequence, not even now been completed in this respect.

Instead of recessing their doors, as was the practice on this side of the Alps, the Italians added projecting porches, often of considerable depth, and supported by two or more slight columns, generally resting on the backs of symbolical animals. No part of these porches, as an architectural arrangement, can be deemed worthy of any commendation; for in the first place, a column planted on an animal's back is an anomaly and an absurdity, and the extreme tenuity of the pillars, as compared with the mass they support, is so glaring that even its universality fails in reconciling the eye to the disproportion. In the present instance the porch is two storeys in height, the upper being a niche for sculpture. Its almost exact resemblance to the entrance porch below is therefore a defect. Above there is generally a gallery, sometimes only in the centre; sometimes, as in this instance, at the sides, though often carried quite across; and in the centre above this there is almost invariably a circular window, the tracery of which is frequently not only elaborately but beautifully ornamented with foliage and various sculptural devices.

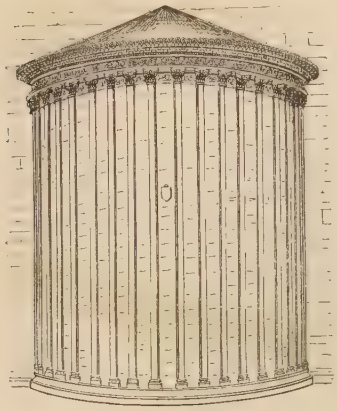
Above this there is generally one of those open galleries mentioned before, following the slope of the roof, though frequently, as in this instance, this is replaced by a mere belt of semicircular arches, suggesting an arcade, but in reality only an ornament.

Verona.

Almost every important city in Lombardy shows local peculiarities in its style, arising from some distinction of race or tradition. The greater number of these must necessarily be passed over in a work like the present, but some are so marked as to demand particular mention. Among these that of Verona seems the most marked and interesting. This Roman city became the favourite capital of Theodoric the Goth—Dietrich of Berne, as the old Germans called him—and was by him adorned with many noble buildings which have either perished or been overlooked. There is a passage in the writings of his friend Cassiodorus which has hitherto been a stumbling-block to commentators, but seems to find an explanation in the buildings here, and to point to the origin of a mode of decoration worth remarking upon. In talking of the architecture of his day he speaks of "the reed-like tenuity of the columns making it appear as if lofty masses of building were supported on upright spears, which in regard to substance look like hollow tubes."[1] It might be supposed that this referred exclu-

[1] "Quid dicamus columnarum junceam proceritatem? Moles illas sublimissimas quasi quibusdam erectis hastilibus contineri substantiæ qualitate concavis canalibus excavatas vel magis ipsas æstimes esse transfusas. Ceris judices factum quod metallis durissimis videas expolitum. Marmorum juncturas venas dicas esse genitales, ubi dum falluntur oculi laus probatur crevisse miraculis." In the above, *metallum* does not seem to mean metal as we now use the word, but any hard substance dug out of the ground. —Cassiodorus variorum, lib. vii. ch. 15.

sively to the metal architecture of the use of which we find traces in the paintings at Pompeii and elsewhere.[1] But the context hardly bears this out, and he is probably alluding to a stone or marble architecture, which in the decline of true art had aspired to a certain extent to imitate the lightness which the metallic form had rendered a favourite.



715. Apse of the Cathedral, Verona. From Hope's 'History of Architecture.'

To return to Verona:—The apse of the cathedral seems to have belonged to an older edifice than that to which it is now attached, as was often the case, that being the most solid as well as the most sacred part of the building. As seen in the woodcut (No. 715) it is ornamented with pilasters, classical in design, but more attenuated than any found elsewhere; so that I cannot but believe that this is either one of the identical buildings to which Cassiodorus refers, or at least an early copy from one of them.

At a far later age, in the 12th century, the beautiful church of San Zenone shows traces of the same style of decoration, pilasters being used here almost as slight as those at the Cathedral, but so elegant and so gracefully applied as to form one of the most beautiful decorations of the style. Once introduced, it was of course repeated in other buildings, though seldom carried to so great an extent or employed so gracefully as in this instance. Indeed, whether taken internally or externally, San Zenone may be regarded as one of the most pleasing and perfect examples of the style to be found in the north of Italy.

The cathedral at Modena is another good example, though not possessing any features of much novelty or deserving special mention. That of Parma is also important, though hardly so pleasing. Indeed scarcely any city in the valley of the Po is without some more or less perfect churches of this date, none showing any important peculiarities that have not been exemplified above, unless perhaps it is the apse of the church of San Donato on the Murano near Venice, which is decorated with a richness of mosaic to which the purer Gothic style never attained, and which entitles this church to rank rather with the Byzantine than with the Gothic buildings of which we are treating.

It is extremely difficult to draw a line between the pointed and round-arched Gothic styles in Italy. The former was so evidently a foreign importation, so unwillingly received and so little understood,

[1] See vol. i. p. 343.

that it made its way but slowly. Even, for instance, in the church at Vercelli, which is usually quoted as the earliest example of the pointed style in Italy (built 1219–1222), there is not a pointed arch nor a trace of one on the exterior. All the windows and openings are round-headed, and, except the pier-arches and vaults, nothing pointed appears anywhere. Even at a later date than this the round arch, especially as a decorative form, is frequently placed above the pointed one, and always used in preference to it. Instead, therefore, of attempt-

716. Façade of San Zenone, Verona. From Chapuy.

ing to draw a line where none exists in reality, it will be better now to pass on from this part of the subject, and to take up the older style at a point from which we can best trace the formation of the new. The latter does not essentially differ from the former, except in the introduction of the French form of the pointed arch and its accompaniments. It remains only to say a few words on the peculiarities which the round form of churches took in the hands of the early Lombard architects, as well as on the campanile, which forms so striking a feature in the cities of northern Italy.

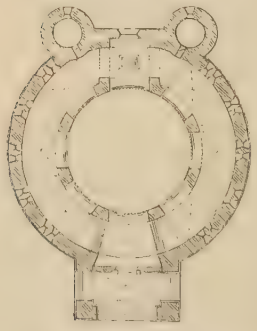
Circular Churches.

In the earliest times of Christian architecture, as we have already seen, the circular form of church was at least as frequent as that derived from the Roman basilica. In process of time the latter was found to be much better adapted to the extended requirements of Christianity. Hence in the 11th and 12th centuries, when so many of the early churches were rebuilt and enlarged, most of the old circular buildings disappeared. Enough, however, remain to enable us to trace, though imperfectly, what their arrangements were.

Among those which have been illustrated, perhaps the most interesting is that known as the church of San Stefano at Bologna, or rather the circular centre of that congeries of seven churches usually known by that name.

It is one of those numerous churches of which it is impossible to predicate whether it was originally a baptismal or a sepulchral edifice. In old times it bore both names, and may have had both destinations, but latterly, at all events, the question has been settled by the compromise usually adopted in such cases, of dedicating it to the first martyr, to whom a sepulchral form of building is especially appropriate.

Notwithstanding a considerable amount of ancient remains mixed up in the details, no part of the present church seems older than the Carlovingian era; while, on the other hand, its extreme irregularity and clumsiness of construction point to a period before the 11th century. Its general form is that of an extremely irregular octagon, about 60ft. in diameter, in the centre of which stands a circlet of columns, some coupled, some single, supporting a semicircular dome. The circumscribing aisle is covered with the usual intersecting ribbed vault of the 10th century, but the whole is so rude as scarcely to deserve mention except for its antiquity.



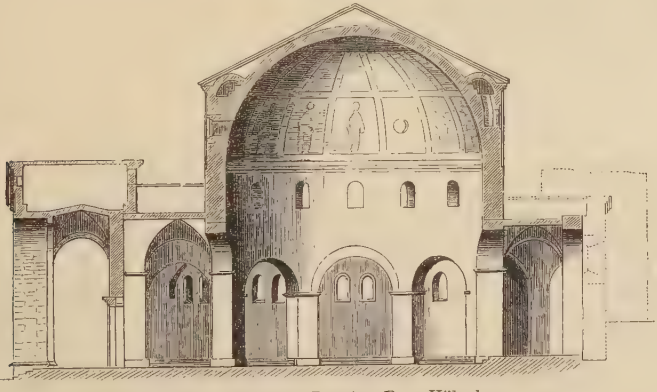
717. Plan of the Duomo, Brescia. From Hübsch. Scale 100 ft. to 1 in.

At Brescia there are two circular churches: one, the Duomo Vecchio, may be anterior even to the Carlovingian era—Hübsch thinks it belongs to the 7th century. Whatever its date, it is one of the best preserved and most interesting churches of its class in the North of Italy. As will be seen from the plan, it is a large church, 125 ft. across over all, and is covered by a dome 65 ft. diameter internally, supported by 8 piers of very plain design. The mode in which light is introduced into the central compartment illustrates the various tentative expedients by which the architects in that age attempted to accomplish their object. First, there is a range of small windows in the

drum below the springing of the dome. In the dome itself there are four circular holes, and as if the architect felt that he was doing something unusual and inartistic, he managed externally to confuse these with the rudiments of the roof-gallery. This last feature is managed in even a more rudimentary fashion than at Novara (woodcut No. 708), and is evidently intended to look, externally, as if it lighted the interior of the church.

718. Elevation of Duomo at Brescia. From Hübsch. Scale 50 ft. to 1 in.

It is not clear whether originally it had or was intended to have an apse between its two round towers—the foundations of which can still be traced. Most probably it had. What renders this church of peculiar interest now is that its ordonnance had probably even more influence on the design of the churches at Aix la Chapelle and elsewhere in Germany than San Vitale at Ravenna, which is usually considered the prototype of all the circular churches north of the Alps.

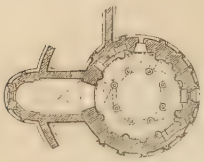


719. Section of Duomo at Brescia. From Hübsch.

The other circular church at Brescia is that of Sta. Julia, which is certainly more modern than the Duomo, and, as it at present stands, cannot be considered older than the 12th century. In its upper part it assumes an octagonal form, and altogether tends much more towards the Gothic forms than its rival.

Turning from these we find the round-arched Gothic style com-

pletely developed in the church of San Tomaso in limine, near Bergamo. From the annexed plan it will be seen that the circular part is the nave or entrance, as in Germany and England, in contradistinction to the French mode of arrangement, where the circular part is always the sanctum, the rectangular the nave or less holy place.



720. San Tomaso in limine. Scale 100 ft. to 1 in.

The general plan of this example is circular. It is not more than 30 ft. across internally. In the centre stand eight pillars, supporting a vaulted gallery, which forms a triforium or upper storey, and, with the dome and its little cupola, raise the whole height to about 50 ft. A small choir with a semicircular niche projects eastward.

The dimensions of the building are so small, that it hardly deserves notice, except as a perfect example of the style of the 11th or 12th century in Lombardy, and for a certain propriety and elegance of design, in which it is not surpassed, internally at least, by any building of its age. It is to be regretted that the idea was never carried out (at any rate no example remains) on such a scale as to enable us to judge of the effect of such a domical arrangement as is here attempted. The great defect of all one-storied domes is their lowness, both internally, and more especially externally. This method of building a dome in two storeys would seem calculated to obviate the objection; but though common in small sepulchral chambers, it has never been tried on a scale sufficiently large to enable us to judge of its real effect. After this period the circular shape was so completely superseded by the rectangular, that no further improvement took place in it.

721. San Tomaso. From Isabelle, 'Edifices Circulaires.' Scale 50 ft. to 1 in.

Towers.

There is perhaps no question of early Christian archæology involved in so much obscurity as that of the introduction and early use of towers. The great monumental pillars of the Romans—as, for instance, those of Trajan and Antoninus—were practically towers; and latterly their tombs began to assume an aspiring character like that at St. Remi (woodcut No. 222), or those at Palmyra and elsewhere in the East,

which show a marked tendency in that direction. But none of these can be looked upon as an undoubted prototype of the towers attached to the churches of the Christians.

At Ravenna, as early as the age of Justinian, we find circular towers attached to St. Apollinare in classe (woodcut No. 262), and in the other churches of that place they seem even then to have been considered necessary adjuncts. At the same time, it is by no means clear that they were erected as bell-towers; indeed the evidence is tolerably clear that bells were not used in Christian churches till the time of Pope Adrian I., some two centuries later. What, then, were they? There is, I think, no trace of their being sepulchral monuments, or that they were designed or used as tombs; and unless they were, like the *sthambas* of the Buddhists, pillars of victory, or towers erected to mark sacred or remarkable spots, it is difficult to say what they were, or where we are to look for an analogy.

Be this as it may, the oldest circular towers with which we are acquainted are those of Ravenna; while the last of the series is the famous leaning one at Pisa, commenced in the year 1174. The gradations between these two extremes must have been the same that marked the changes in the architecture of the churches to which they are attached; but the links are more completely wanting in the case of the towers than in that of the churches.

The tower of St. Apollinare in classe, above referred to, the most perfect of those of Ravenna, is a simple brick tower (see woodcut No. 262), 9 storeys in height, the lower windows being narrow single openings; above there are two, and the three upper storeys are adorned with four windows of three lights each.

In Rome, as far as we know, the first tower attached to a church was that built by Pope Adrian I., in front of the atrium of St. Peter's; but they soon became common, and we now find them attached to the churches of S. Lorenzo without the walls, S. Croce in Gerusalemme, SS. Giovanni e Paolo, S. Clemente, S. Giorgio in Velabro, and others. All these are square in plan and extremely similar in design, no improvement and scarcely any change having taken place between the first and the last, as if the form were an old and established one when first adopted. That attached to Sta. Maria in Cosmedin (woodcut No. 722) is perhaps one of the best and most complete. Its dimensions are small, its breadth being little more than 15 ft., and its height only 110; but notwithstanding this there is great dignity in the design, and, in a city where buildings are not generally tall, its height is sufficient to give it prominence without overpowering other objects,—a characteristic which renders these Roman towers not only beautiful structures in themselves, but appropriate ornaments to the buildings to which they are attached.

The chief interest of these towers is derived from the numerous

progeny to which they gave birth: for though there is scarcely an instance of a square Romanesque tower beyond the walls of Rome during the period in which this style flourished, the form was seized upon with avidity by the Gothic architects in all the countries of Europe; and whether as a detached campanile (as in Italy), or as an integral part of the building (as we shall soon find it on this side of the Alps), it forms the most prominent, and perhaps also the most beautiful, feature in the aspiring architecture of the middle ages.

722. Tower of Sta. Maria in Cosmedin. From Gutensohn and Knapp.

There is certainly no architectural feature which the Gothic architects can so justly call their own as the towers and spires which in the middle ages were so favourite, so indispensable a part of their churches and other edifices, becoming in fact as necessary parts of the external design, as the vaults were of the internal decoration of the building.

It is true, as before remarked, that we neither know where they were first invented, nor even where they were first applied to Christian churches —those of Rome and Ravenna being evidently not the earliest examples; nor have they any features which betray their origin—at least none have yet been pointed out, though it is not impossible that a closer examination would bring some such to light. They certainly are as little classical, in form or details, as anything can well be conceived; nor, consequently, can the very name of Romanesque be considered entirely appropriate, though we may be compelled to use it as marking the age and locality in which they occur.

Those of which we have already spoken are all church-towers, —*campaniles* or bell-towers attached to churches. But this exclusive distinction by no means applies to the Gothic towers. The tower of St. Mark at Venice, for instance, and the Toraccio at Cremona, are evidently civic monuments, like the belfries of the Low Countries—symbols of communal power wholly distinct from the church, their proximity to which seems only to arise from the fact of all the principal buildings being grouped together. This is certainly the case with a large class of very ugly buildings in Italy, such as those attached to the town-halls of Florence and Siena, or the famous Asinelli and Garisenda towers at Bologna. They are merely tall square brick towers, with a machicolated balcony at the top,

but possessing no more architectural design than the chimney of a cotton factory. Originally, when lower, they may have been towers of defence, but afterwards became mere symbols of power.

A third class, and by far the most numerous, of these buildings are undoubtedly ecclesiastical erections; they are either actually attached to the churches, or so placed with regard to them as to leave no doubt on the matter. There is is not, however, I believe, in all Italy, a single example of a tower or towers forming, as on this side of the Alps, an integral part of the design.

Sometimes they stand detached, but more generally are connected with some angle of the building, the favourite position being the western angle of the southern transept. Occasionally we find one tower placed at the angle of the façade, but this is seldom the case when the tower and the church are of the same age. It is so in the cathedral at Lucca, and San Ambrogio at Milan; in the latter of which a second tower has been added more recently to balance the older one. It does also happen, as in the instance of Novara, before quoted (woodcut No. 708), that two towers are actually parts of the original design; this, however, is certainly the exception, not the rule.

In design the Italian campaniles differ very considerably from those on this side of the Alps. They never have projecting buttresses, nor assume that pyramidal form which is so essential and so beautiful a feature in the northern examples. In plan the campanile is always square, and carried up without break or offset to two-thirds at least of its intended height. This, which is virtually the whole design (for the spire seems an idea borrowed from the north), is generally solid to a considerable height, or with only such openings as serve to admit light to the stairs or inclined planes. Above the solid part one round-headed window is introduced in each face, and in the next storey two; in the one above this three, then four, and lastly five, the lights being merely separated by slight piers, so that the upper storey is virtually an open loggia (see woodcut No. 729). There is no doubt great beauty and propriety of design in this arrangement; in point of taste it is unobjectionable, but it wants the vigour and variety of the Northern tower.

So far as we can judge from drawings and such ancient examples as remain, the original termination was a simple cone in the centre, with a smaller one at each of the angles.

At Verona an octagonal lantern is added, and at Modena and Cremona the octagon is crowned by a lofty spire, but these hardly come within the limits of the epoch of which we are now treating. So greatly did the Italians prefer the round arch, that even in their imitation of the Northern styles they used the pointed shape only when compelled—a circumstance which makes it extremely difficult, particularly in the towers, to draw the line between the two styles; for

though pointed arches were no doubt introduced in the 13th and 14th centuries, the circular-headed shape continued to be employed from the age of the Romanesque to that of the Renaissance.

One of the oldest and certainly the most celebrated of the Gothic towers of Italy, is that of St. Mark's at Venice, commenced in the year 902; it took the infant Republic three centuries to raise it 180 ft., to the point at which the square basement terminates. On this there must originally have been an open loggia of some sort, no doubt with a conical roof. The present superstructure was added in the 16th century, but though the loggia is a very pleasing feature, it is overpowered by the solid mass that it surmounts, and by the extremely ugly square extinguisher that crowns the whole. Its locality and its associations have earned for it a great deal of undue laudation, but in point of design no campanile in Italy deserves it less. The base is a mere unornamented mass of brickwork, slightly fluted, and pierced unsymmetrically with small windows to light the inclined plane within. Its size, its height, and its apparent solidity are its only merits. These are no doubt important elements in that low class of architectural excellence of which the Egyptian pyramids are the type; but even in these elements this edifice must confess itself a pigmy, and inferior to even a second-class pyramid on the banks of the Nile, while it has none of the beauty of design and detail displayed by the Giralda of Seville, or even by other Italian towers in its own neighbourhood.

The campanile at Piacenza (woodcut No. 714) is, perhaps, more like the original of St. Mark's than any other, and certainly displays as little beauty as any building of this sort can possess.

That of San Zenone at Verona is far more pleasing. It is, indeed, as beautiful both in proportion and details as any of its age, while it exemplifies at once the beauties and the defects of the style. Among the first is an elegant simplicity that always is pleasing, but this is accompanied by a leanness and poverty of effect, when compared with Northern examples, which must rank in the latter category.

The celebrated tower of the Ghirlandina at Modena will, perhaps, enable us best to compare these Italian towers with the Cis-Alpine ones, since it possesses a well-proportioned spire which is found in few of the others.

In date it ought to belong to the second division of the subject, having been commenced in the 13th and finished in the 14th century; but, as before remarked, there is no line of distinction between the round-arched and pointed-arched styles in Italy, and as this campanile seems to be wholly without any pointed forms, we may describe it here.

Its whole height is about 315 ft., of which less than 200 are taken up in the square part—which thus bears a less predominant propor-

tion to the spire than any other Italian example. It is evidently meant to rival the famous German spires which had become such favourites in the age in which it was built; and although it avoids many of the errors into which the excessive love of decoration and of *tours de force* led the Germans, still the result is far from satisfactory. The change from the square to the octagon is abrupt and unpleasing, and the spire itself looks too thick for the octagon. Everywhere there is a want of those buttresses and pinnacles with which the Gothic architects knew so well how to prepare for a transition of form, and to satisfy the mind that the composition was not only artistically but mechanically correct. The Italians never comprehended the aspiring principle of the Gothic styles, and consequently, though they had far more elegance of taste and used better details, their works hardly satisfy the mind more than a modern classical church or museum can do.

The same remarks apply to the towers of Siena, Lucca, Pistoja, and indeed to all in the north of Italy: all have some pleasing points, but none are entirely satisfactory. None have sufficient ornament, nor display enough design, to render them pleasing in detail, nor have they sufficient mass to enable them to dispense with the evidence of thought, and to impress by the simple grandeur of their dimensions.

CHAPTER III.

POINTED ITALIAN GOTHIC.

CONTENTS.

Fresco paintings — Churches at Vercelli, Asti, Verona, and Lucca — Cathedral at Siena — Sta. Maria, Florence — Church at Chiaravalle — St. Petronio, Bologna — Cathedral at Milan — Certosa, near Pavia — Duomo at Ferrara — Churches at Toscanella.

CHRONOLOGY.

Bologna independent	A.D. 1112	Martino delle Torre at Milan	A.D. 1260
Countess Matilda at Florence	1115	Visconti Lord of Milan	1277
Obizzo d'Este at Ferrara	1184	Taddeo de Pepoli at Bologna	1334
Enrico Dandolo takes Constantinople	1203	Conspiracy of Marino Faliero	1355
War between Genoa and Venice	1205	Gian Galeazzo Visconti Duke of Milan	1395
Azzo d'Este at Ferrara	1208	Verona ceded to Venice	1409
Martino della Scala at Verona	1259	Cosmo de' Medici	1434

Before the commencement of the 13th century, the Italians had acquired such mastery over the details of their round-arched style, and had worked it into such originality and completeness, that it is surprising that they should so easily have abandoned it for that form of Pointed Gothic which they afterwards adopted. It is true the Italians never rose to the conception of such buildings as the great Rhenish cathedrals, like those of Spires and Worms, or the old churches at Cologne; nor did they perhaps even rival the quasi-classical grace and elegance of the Provençal churches; but at Verona, Modena, and indeed throughout the North of Italy they had elaborated a complete round-arched style, all the details of which were not only appropriate and elegant, but seemed capable of indefinite development in the direction in which they were proceeding. They had also before their eyes the Romanesque style of Pisa and Lucca with all its elegance, and the example of Rome, where the architects steadily refused to acknowledge the pointed-arch during the whole of the Mediæval period. Yet in the beginning of the 13th century—say 1220, when the cathedrals of Amiens, Salisbury, and Toledo were designed—Italy too was smitten with admiration for the pointed arch, and set to work to adapt it to her tastes and uses.

It would be difficult to account for this, were we not aware how deeply the feelings that gave rise to the Ghibelline faction were rooted in the Italian soil. In all the cities, except Rome, the cause of

the Ghibellines was throughout the middle ages identified with that of freedom and local independence in opposition to that of the Guelfs, which symbolized the supremacy of the Pope and the clerical party. Knowing how strenuously this was resisted, we naturally expect to find it expressed in the architecture of the country. Two, indeed, of the great churches of Italy, Assisi (1228) and Milan (1385), were erected by Germans in the German style of the day; but these are exceptional. The form which the pointed-arched style took on its introduction, was that of adaptation to the Italian style, in a manner which the Italians thought more consonant with beauty and convenience than that adopted north of the Alps. In this they were certainly mistaken. The elegance of the details employed by a refined and cultivated people, and based on classical traditions, goes far to redeem, in most instances, the defects of their designs; but they never grasped the true principles of Gothic art, and the fatal facility of the pointed arch led them more astray after mechanical clevernesses than even the Germans. Still, it is an original style, and, however imperfect, is well worthy of study.

Before proceeding to describe the style more in detail, it may be well to point out one of the principal causes which led to the more marked features of difference between the Gothic architecture of Italy and that of Germany and France. This was the distaste of the Italians for the employment of painted glass, or at least their want of appreciation of its beauties when combined with architecture.

An attempt was made in a previous chapter to explain how all-important painted glass was to the elaboration of the Gothic style. But for its introduction, the architecture of France would bear no resemblance to what it was, and is. In Italy, indeed, the people loved polychromy, but always of the opaque class. They delighted to cover the walls of their churches with frescoes and mosaics, to enrich their floors with the most gorgeous pavements, and to scatter golden stars over the blue ground of their vaults; but rarely, if ever, did they fill, or design to fill, their windows with painted glass. Perhaps the glare of an Italian sun may have tended to render its brilliancy intolerable; but more probably the absence of stained glass is owing to its incompatibility with fresco-painting, the effect of which would be entirely destroyed by the superior brightness of the transparent material. The Italians were not prepared to relinquish the old and favourite mode of decoration in which they so excelled. This adherence to the ancient method of ornamentation enabled them, in the 15th and 16th centuries, to surpass all the world in the art of painting, but it was fatal to the proper appreciation of the pointed style, and to its successful introduction into the land.

The first effect of this tendency was that the windows in Italian churches were small, and generally devoid of tracery, with all its

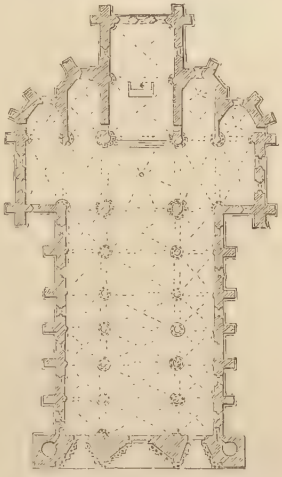
beautiful accompaniments. The walls, too, being consequently solid, were sufficient, by their own weight, to abut the thrust of the arches: so that neither projecting or flying buttresses nor pinnacles were needed. The buildings were thus deprived externally of all the aspiring vertical lines so characteristic of true Gothic. The architects, to relieve the monotony arising from the want of these features, were forced to recur to the horizontal cornices of the classical times, and to cover their walls with a series of panelling, which, however beautiful in itself, is mere ornament—both unmeaning and inconsistent.

Internally, too, having no clerestory to make room for, and no constructive necessities to meet, they jumped to the conclusion that the best design is that which covers the greatest space with the least expenditure of materials, and the least encumbrance of the floor. With builders this is a golden rule, but with architects it is about the worst that can possibly be adopted. The Germans were not free from this fault, but the Italians carried it still further. If on four or five piers they could support the vault of a whole nave, they never dreamed of introducing more. A French architect, though superior in constructive skill, would probably have introduced eight or ten in the same space. An Italian would carry the vaults of the side-aisles to the same height as that of the nave, if he could. A Northern architect knew how to keep the two in their due proportion, whereby he obtained greater height and greater width in the same bulk, and an appearance of height and width greater still, by the contrast between the parts, at the same time that he gave his building a character of strength and stability perhaps even more valuable than that of size.

In the same manner the Northern architects, while they grouped their shafts together, kept them so distinct, as to allow every one to bear its proportional part of the load, and perform its allotted task. The Italians never comprehended this principle, but merely stuck pilasters back to back, in imitation of the true architects, producing an unmeaning and ugly pier. The same incongruities occur in every part and every detail. It is a style copied without understanding, and executed without feeling. The elegance of the sculptured foliage and other details sometimes goes far to redeem these faults; for the Italians, though bad architects, were always beautiful carvers, and, as a Southern people, were free from the vulgarities sometimes apparent farther north, and never fell into the wild barbarisms which too often disfigure even the best buildings on this side of the Alps. Besides, when painting is joined to sculpture in churches, the architecture may come to occupy a subordinate position, and thus escape the censure it deserves. Unfortunately there are only two examples of any importance in this style that retain all their painted decorations—S. Francis at Assisi, and the Certosa near Pavia. From this circumstance they are perhaps the most admired in Italy. In others the spaces left for colour are

still plain and blank. We see the work of the architect unaided by the painting which was intended to set it off, and we cannot but condemn it as displaying at once bad taste and ignorance of the true Gothic feeling.

One of the earliest, or perhaps the very first Italian edifice into which the pointed arch was introduced, is the fine church of St. Andrea at Vercelli, commenced in the year 1219 by the Cardinal Guala Bicchieri, and finished in three years. This prelate, having been long legate in England, brought back with him an English architect called, it is said, Brigwithe, and entrusted him with the erection of this church in his native place.

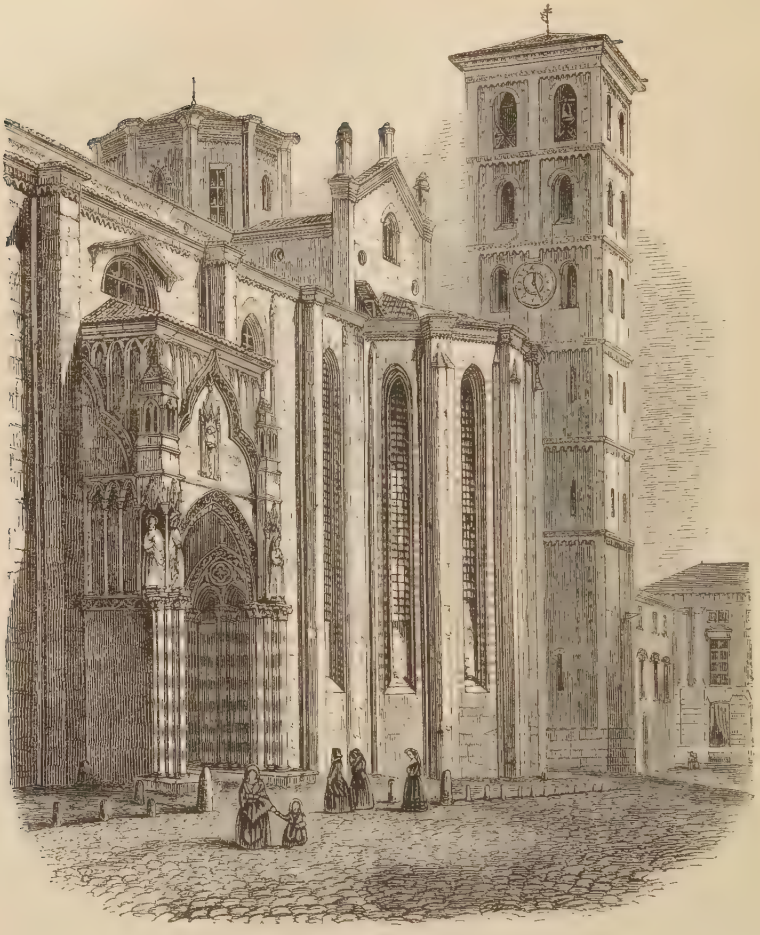


723. Plan of the Church at Vercelli. From Osten's 'Baukunst in Lombardei.' Scale 100 ft. to 1 in.

In plan, it is certainly very like an English church, terminating squarely towards the east, and with side chapels to the transepts, arranged very much as we find them at Buildwas, Kirkstall, and other churches of this class and size, only that here they are polygonal, which was hardly ever the case in England. But with the plan all influences of the English architect seem to have ceased, and the structure is in purely Italian style. Externally the pointed arch nowhere appears, all the doors and windows being circular-headed; while internally it is confined to the pier-arches of the nave and the vaulting of the roof. The façade is flanked at its angles by two tall, slender, square towers: and the intersection of the nave and transept is covered by one of those elegant octagonal domes which the Italians knew so well how to use, and which is in fact the only original feature in their designs. The external form of this church is interesting, as displaying the germs of much that two centuries afterwards was so greatly expanded by a German architect in the design of Milan cathedral.

A few years later, in 1229, a church was commenced at Asti, the tower of which was finished in 1266. This allowed time for a more complete development of the pointed style, which here prevails not only internally, but externally. Tall lancet windows appear in the flanks, and even the doorways assume that form, in their canopies, if not in their openings. The porch (woodcut No. 724)is a later addition, and a characteristic specimen of the style during the 14th century. This church is also one of the earliest examples in which those elegant terra-cotta cornices of small intersecting arches seem to have been brought to perfection.

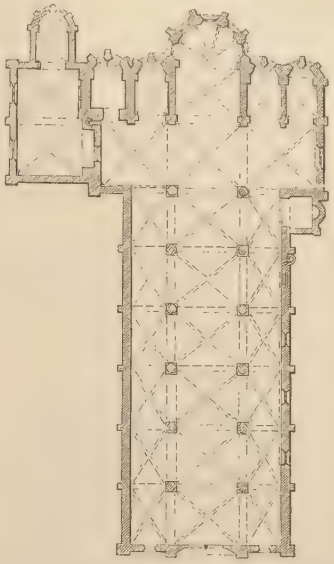
The most remarkable church of this age is that of St. Francis at Assisi, commenced in 1228, and finished, in all essentials at least, in



724. Church at Asti. From Chapuy, 'Moyen Age Monumental.'

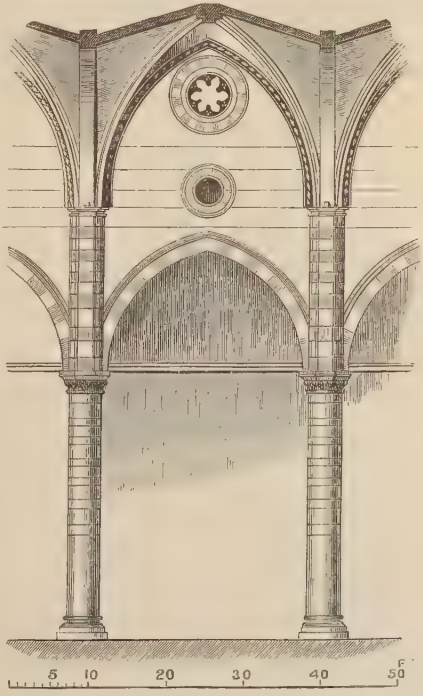
1253. It is said to have been built by a German named Jacob, or Jacopo. Certainly no French or English architect would have designed a double church of this class, though, on the other hand, no Italian could have drawn details so purely Northern as those of the upper church. In the lower church there are hardly any mouldings to mark the style, but its character is certainly rather German than Italian. This church depends for its magnificence and character much more on painting than on architecture. In the first place it is small, the upper church being only 225 ft. long, by 36 in width; and though the lower one has side-aisles which extend the width to 100 ft., yet the upper church is only 60 ft. in height, and the lower about 30, so that it is far too small for much architectural magnificence. None of its details are equal to those of contemporary churches on this side of the

Alps. The whole church is covered with fresco-paintings in great variety and of the most beautiful character, which justly render it one of the most celebrated and admired of all Italy. On this side of the Alps, without its frescoes, it would hardly attract any attention. It is invaluable as an example of the extent to which polychromatic decoration may be profitably carried, and of the true mode of doing it; and also as an illustration of the extent to which the Italians allowed a foreign style and mode of ornamentation to be introduced into their country.



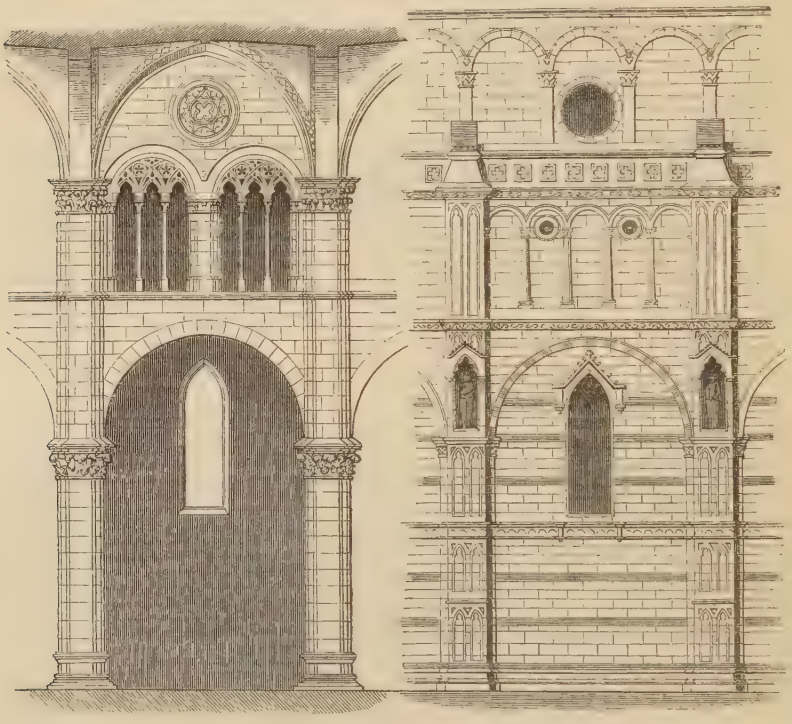
725. Plan of Sta. Anastasia, Verona. Scale 100 ft. to 1 in.

One of the purest and most perfect types of an Italian Gothic church is that of Sta. Anastasia at Verona, commenced apparently in 1260, It is not large, being only 285 ft. in length externally; but its arrangements are very complete, and very perfect if looked at from an Italian point of view. The square of the vault of the nave is the modulus, instead of that of the aisles, as in true Gothic churches; owing to which the pier-arches are further apart than a true artist would have placed them; there are also no buttresses externally, but only pilasters. The consequence of this is, that the arches have to be tied in with iron rods at the springing, which internally adds very much to the appearance of weakness, caused in the first instance



726. One bay of Sta. Anastasia, Verona.

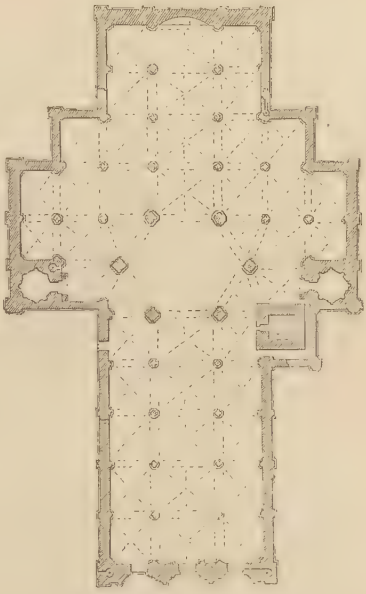
by the wide spacing and general tenuity. These bad effects are aggravated by the absence of a string-course at the springing of the vault; and by the substitution of a circular hole for the triforium, and a hexafoiled opening of very insignificant dimensions, for the glorious clerestory windows of Northern churches. Altogether, though we cannot help being pleased with the spaciousness and general elegance of design, it is impossible not to feel how very inferior it is to that of churches on this side the Alps.



727. One Bay, externally and internally, of the Church of San Martino, Lucca.

The church of San Martino at Lucca, built about a century after Sta. Anastasia (middle of 14th century), presents a strikingly happy compromise between the two styles. The pier-arches are still too wide – 23 feet in the clear; but the defect is remedied to some extent by the employment of circular instead of pointed arches, and the triforium is all that can be desired; the clerestory, however, is as insignificant as it must be where the sun is so brilliant, and painted glass inadmissible. It would be easy to point out other defects; but, taking it altogether, there are few more elegant churches than this, and hardly one in Italy that so perfectly meets all the exigences for which it was designed.

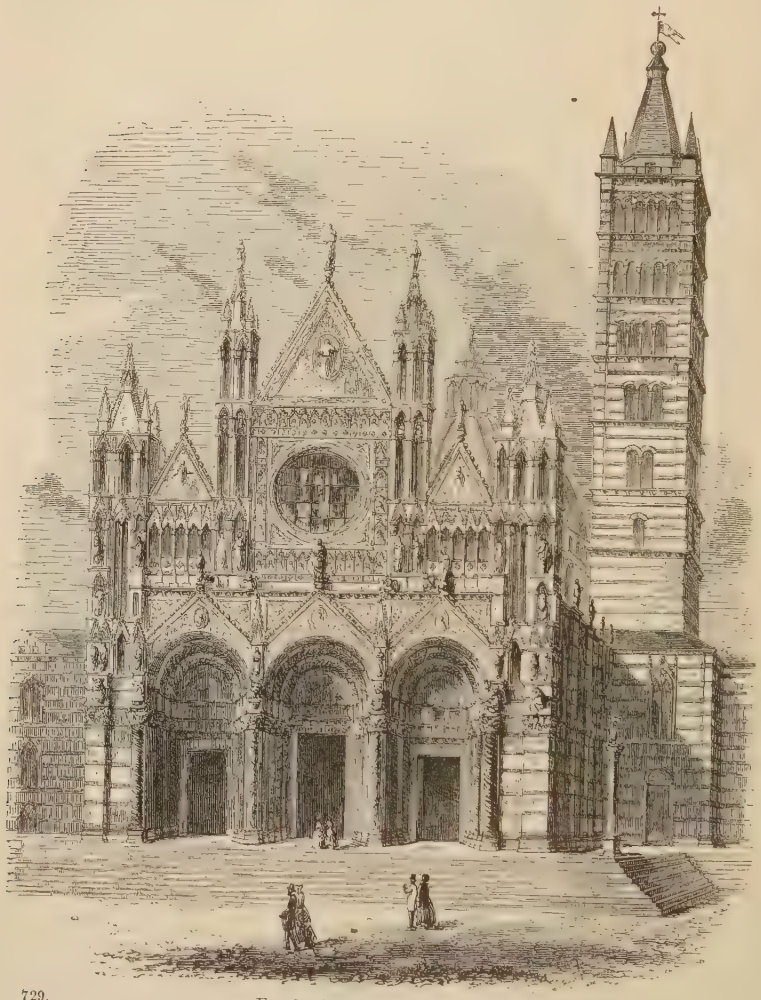
The cathedrals of Siena and Orvieto (the former commenced in 1243, the latter in 1290) are perhaps, taken altogether, the most successful specimens of Italian pointed Gothic. They are those at least in which the system is carried to the greatest extent without either foreign aid or the application of distinctly foreign details. These two buildings, moreover, both retain their façades as originally completed by their first architects, while the three great churches of this style—the cathedrals of Florence, Bologna, and Milan—were all left unfinished, with many others of the smaller churches of Italy. The church at Siena illustrates forcibly the tendency of the Italian architects to adhere to the domical forms of the old Etruscans, which the Romans amplified to such an extent, and the Byzantines made peculiarly their own. I cannot but repeat my regret that the Italians alone, of all the Western mediæval builders, showed any predilection for this form of roof. On this side of the Alps it could have been made the most beautiful of architectural forms. In Italy there is no instance of more than moderate success—nothing, indeed, to encourage imitation. Even the example now before us is no exception to these remarks, though one of the boldest efforts of Italian architects. In plan it ought to have been an octagon, but that apparently would have made it too large for their skill to execute, so they met the difficulty by adopting a hexagon, which, though producing a certain variety of perspective, fits awkwardly with the lines of columns, and twists the vaults to an unpleasant extent. Still a dome of moderate height, and 58 ft. in diameter, covering the centre of the church, and with sufficient space around to give it dignity, is a noble and pleasing feature, the merit of which it is impossible to deny. Combined with the rich colouring and gorgeous furniture of the church, it makes up a whole of great beauty. The circular pier arches, however, and the black and white stripes by which the exterior is marked, detract considerably from the effect of the whole—at least in the eyes of strangers, though the Italians still consider it a beauty. The façade of this cathedral is represented in woodcut No. 729. It consists of three great portals, the arches of which are equal in



728. Plan of Cathedral at Siena. From the 'Eglises Principales d'Europe.' Scale 100 ft. to 1 in.

size, though the centre doorway is larger than those at the sides. Above is the invariable circular window of the Italian architects and the whole is crowned by steep triangular gables.

The carved architectural ornaments of the façade are rich and elaborate in the extreme, though figured sculpture is used to a much

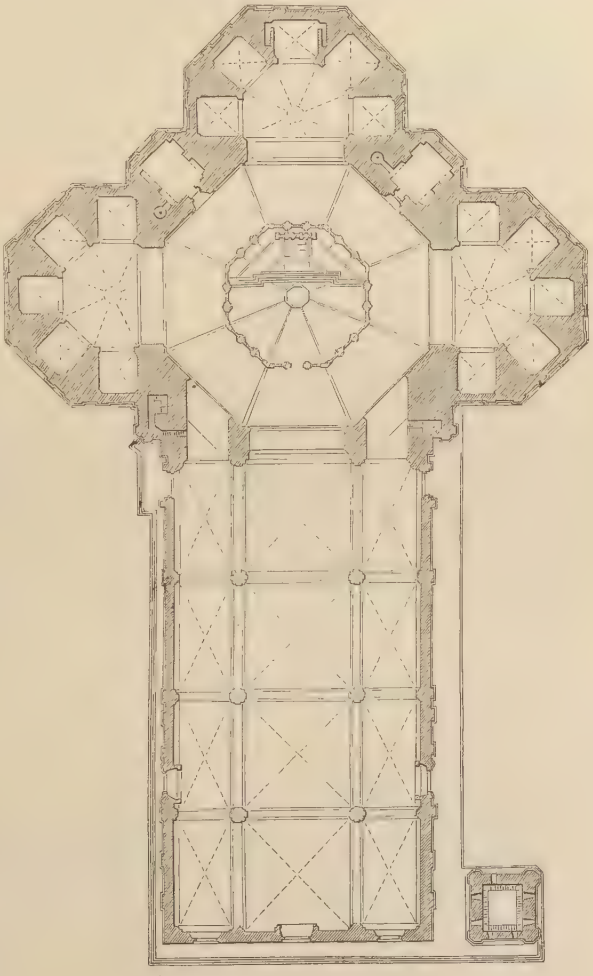


729. Façade of the Cathedral at Siena.

less extent than in Northern portals of the same age. It is also observable that the strong horizontal lines do not harmonise with the aspiring character of pointed architecture.

The cathedral of Orvieto is smaller and simpler, and less rich in its decorations, than that at Siena, with the exception of its façade, which

is adorned with sculpture and painting. Indeed the three-gabled front may be considered the typical one for churches of this class. The façades intended to have been applied to the churches at Florence, Bologna, Milan, and elsewhere, were no doubt very similar to that represented in woodcut No. 729. As a frontispiece, if elaborately sculptured and painted, it is not without considerable appropriateness and even beauty; but, as an architectural object, it is infinitely inferior to the double-towered façades of the Northern cathedrals, or even to those with only one great tower in the centre. It has besides the defect of not expressing what is behind it; the central gable being always higher than the roof, and the two others merely ornamental appendages. Indeed, like the Italian Gothic buildings generally, it depended on painting, sculpture, and carving for its effect, far more than on architectural design properly so called.



730. Plan of Cathedral at Florence. From Isabelle, 'Edifices Circulaires.' Scale 100 ft. to 1 in.

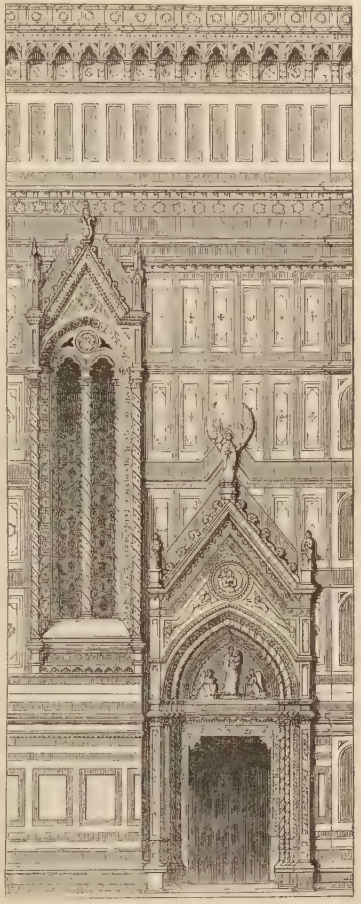
By far the greatest and most perfect example of Italian Gothic is the church of Sta. Maria dei Fiori, the cathedral of Florence, one of the largest and finest churches produced in the middle ages—as far as mere grandeur of conception goes, perhaps the very best, though considerably marred in execution.

The building of the church was commenced in the year 1294 or 1298 (it is not quite clear which), from the designs and under the superintendence of Arnolfo di Lapo,—for unfortunately in this style we know the names of all the architects, and all the churches show traces of the caprice and of the misdirected efforts of individuals, instead of the combined national movement which produced such splendid results in France and England. It is not known how far Arnolfo had carried the building when he died, in 1300, but probably up to the springing of the vaults. After this the works proceeded

731. Section of Dome and part of Nave of the Cathedral at Florence. Scale 100 ft. to 1 in.

more leisurely, but the nave and smaller domes of the choir were no doubt completed as we now find them in the first 20 years of the 14th century. The great octagon remained uncovered till Brunelleschi commenced the present dome, in 1420, and completed it in all essential parts before his death, which happened in 1444. The building may therefore be considered as essentially contemporary with the cathedral of Cologne, which it very nearly equals in size (its area being 84,802 ft., while that of Cologne is estimated at 91,000), and, as far as mere conception of plan goes, there can be little doubt but that the

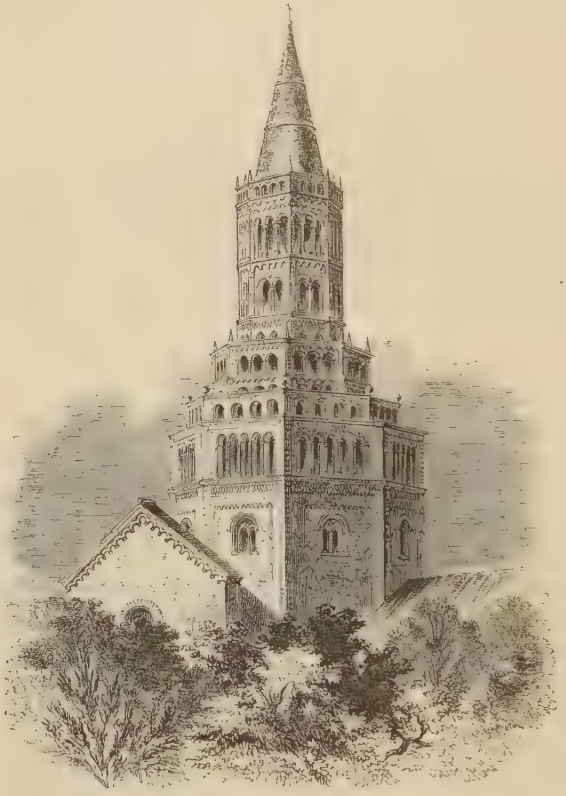
Florentine cathedral far surpasses its German rival. Nothing indeed can be finer than its general ground-plan. A vast nave leads to an enormous dome, extending into the triapsal arrangement so common in the early churches of Cologne, and which was repeated in the last and greatest effort of the middle ages, or rather the first of the new school—the great church of St. Peter at Rome. In the Florentine church all these parts are better subordinated and proportioned than in any other example, and the mode in which the effect increases and the whole expands as we approach from the entrance to the sanctum is unrivalled. All this, alas! is utterly thrown away in the execution. Like all inexperienced architects, Arnolfo seems to have thought that greatness of parts would add to the greatness of the whole, and thus used only four great arches in the whole length of his nave, giving the central aisle a width of 55 ft. clear. The whole width is within 10 ft. of that of Cologne, and the height about the same; and yet, in appearance, the height is about half, and the breadth less than half, owing to the better proportion of the parts and to the superior appropriateness in the details on the part of the German cathedral. At Florence the details are positively ugly. The windows of the side-aisles are small and misplaced, those of the clerestory mere circular holes. The proportion of the aisles one to another is bad, the vaults ill-formed, and altogether a colder and less effective design was not produced in the middle ages. The triapsal choir is not so objectionable as the nave, but there are large plain spaces that now look cold and flat; the windows are too small, and there is a gloom about the whole which is very unsatisfactory. It is more than probable that the original intention was to paint the walls, and not to colour the windows, so that these defects are hardly chargeable to the original design.



732. Part of the Flank of Cathedral at Florence.

Externally the façade was never finished, and we can only fancy

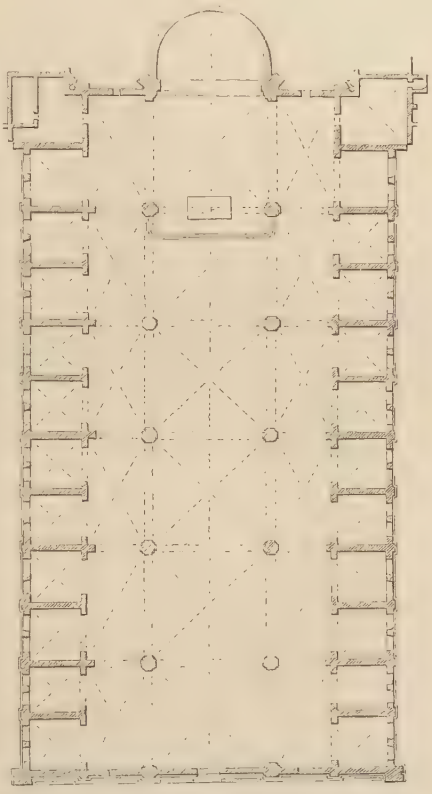
what was intended from the analogy of Siena and Orvieto. The flanks of the nave are without buttresses or pinnacles, and with only a few insignificant windows would be painfully flat, except for a veneer of coloured marbles disposed in panels over the whole surface. For an interior or a pavement such a mode of decoration is admissible; but it is so unconstructive, so evidently a mere decoration, that it gives a weakness to the whole, and a most unsatisfactory appearance to so large a building. This is much less apparent at the east end, where the outline is so broken, and the main lines of the construction so plainly marked, that the mere filling-in is comparatively unimportant. This is the most meritorious part of the church, and so far as it was carried up according to the original design, is extremely beautiful. Even the plainness and flatness of the nave serve as a foil to set off the varying outline of the choir. Above the line of the cornice of the side-aisles there is nothing that can be said to belong to the original design except the first division of the drum of the dome, which follows the lines of the clerestory. It has long been a question what Arnolfo originally intended, and especially how he meant to cover the great octagonal space in the centre. All knowledge of his intentions seems to have been lost within a century after his death: at least in the accounts of the proceedings of the commission which resulted in the adoption of Brunelleschi's design for the dome, no reference is made to any original design as then existing, and no one appears to have known how Arnolfo intended to finish his



733. Dome at Chiaravalle, near Milan. From a drawing by Ed. Falkener, Esq.

work. Judging from the structure as far as he carried it, and with the knowledge we now possess of the Italian architecture of that age, we can form a very feasible conjecture of his design for its completion. Internally, it probably consisted of a dome something like the present, but flatter, springing from the cornice 40 ft. lower than the present one, and pierced with large openings on each of its eight faces.

Externally, it was probably arranged something like that of Chiaravalle, near Milan (woodcut No. 733), built in 1221, of course with different details, but in storeys, so as to render the construction easy; and this would have been carried up to a height of not less than 500 ft., about equal to the length of the church. The three smaller semi-domes must have been intended to be crowned with miniature octagonal spires of the same class with the great dome, and between these the vast substructures show that it was intended to carry up four great spires, probably to a height of 400 ft.



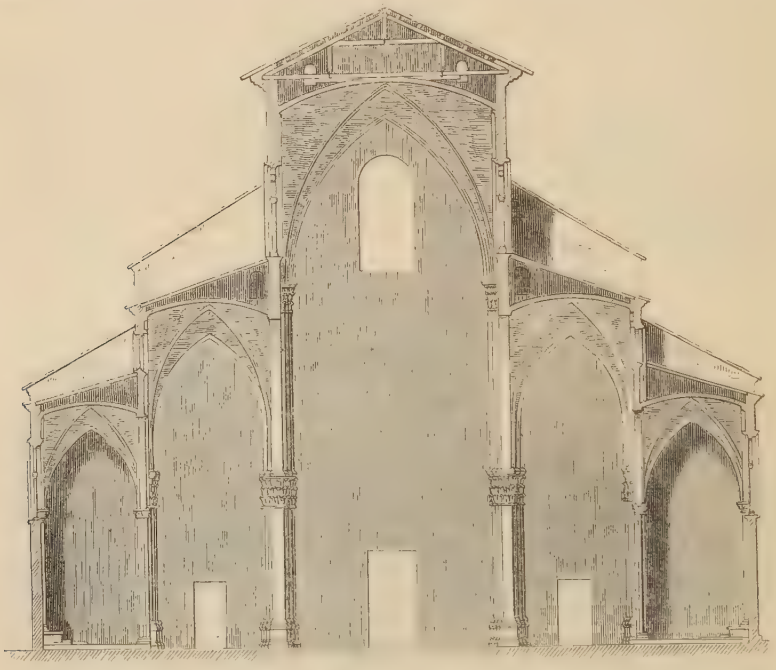
734. Plan of the part executed of St. Petronio, Bologna. From Wiebeking. Scale 100 ft. to 1 in.

Had all this been done (and something very like it was certainly intended), neither Cologne Cathedral, nor any church in Europe, ancient or modern, would have been comparable to this great and glorious apse. As it is, the plain, heavy, simple outlined dome of Brunelleschi acts like an extinguisher, crushing all the lower part of the composition, and both internally and externally destroying all harmony between the parts. It has deprived us of the only chance that ever existed of witnessing the effect of a great Gothic dome; not indeed such a dome as might on the same dimensions have been executed on this side of the Alps, but still in the spirit, and with much of the poetry, which gives such value to the conceptions of the builders in those days.

But for this change of plan, the ambition of the Florentines might have been in some measure satisfied, whose instructions to

the architect were, that their cathedral "should surpass everything that human industry or human power had conceived of great and beautiful."

About a century later (1390), the Bolognese determined on the erection of a monster cathedral, which, in so far as size went, would have been more than double that at Florence. According to the plans that have come down to us, it was to have been about 800 ft. long and 525 wide across the transepts; at the intersection was to have been a dome 130 ft. in diameter, or only 6 ft. less than that at Florence; and the width of both nave and transepts was to have been 183 ft.: so that



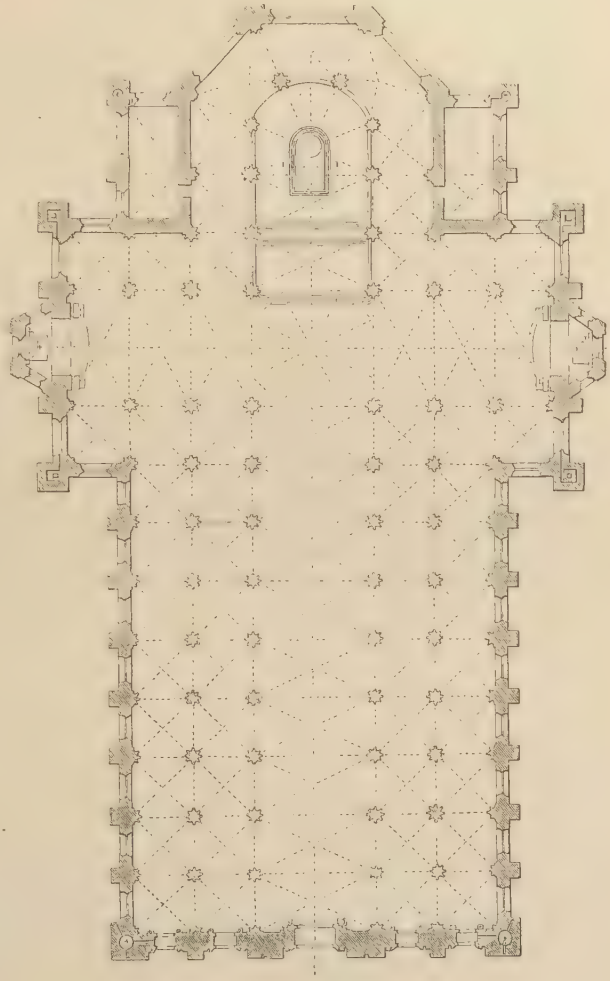
735. Section of St. Petronio, Bologna. From Wiebeking. Scale 50 ft. to 1 in.

the whole would have covered about 212,000 ft., or nearly the same area as St. Peter's at Rome, and three times that of any French cathedral! Of this vast design, only about one-third, or 74,000 sq. ft., was ever carried out; and it is fortunate that it stopped there, as few uglier buildings were ever designed or executed. Its plan and section (woodcuts Nos. 734, 735) are not without interest, as illustrating the principles of Italian design, and are useful for comparison either with such buildings as the beautiful cathedral at Bourges (which similarly has aisles of different heights), or with the great cathedral of Milan, which comes next in our series.

As will be seen from the plan (woodcut No. 734), the great object

of the architect was to cover the largest possible space from the fewest points of support, using his side-chapels as internal instead of external buttresses. In his design, the square of the vault of the central nave becomes the modulus, instead of that of the side-aisles, as in all true Gothic buildings. Hence the nave is constructed with only six bays in length instead of twelve, and all the other parts are lean and wide in proportion.

The cathedral of Milan—at once the most remarkable and the largest and richest of all the churches erected in the middle ages—was commenced in the year 1385, by order of Gian Galeazzo, first Duke of Milan, and consecrated in 1418, at which date all the essential parts seem to have been completed, though the central spire was not finished till about the year 1440, by Brunelleschi.

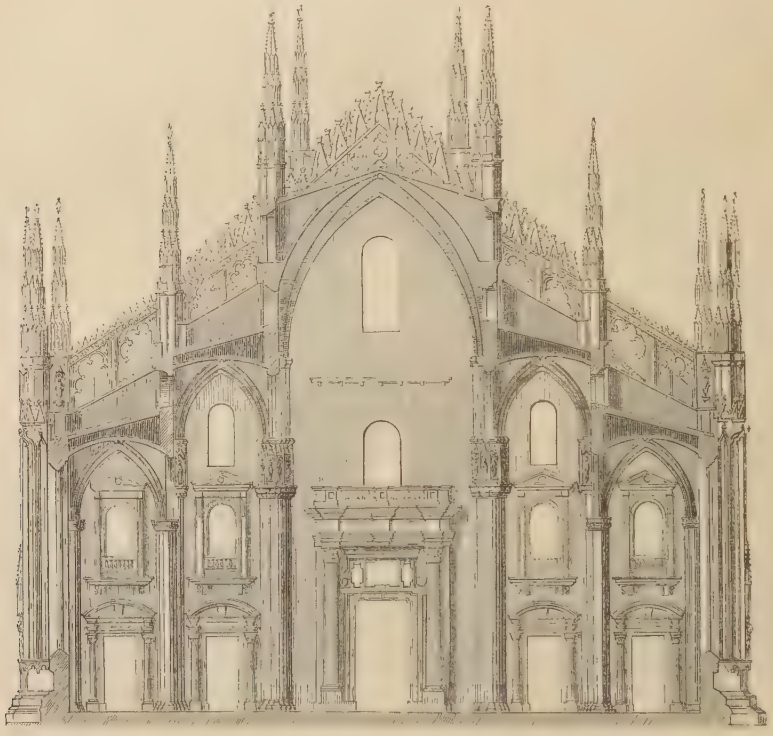


736. Plan of the Cathedral of Milan. From 'Chiesi principali d'Europa.' Scale 100 ft. to 1 in.

The design is said to have been furnished by a German architect, Heinrich Arlez von Gemunden, or as the Italians call him, "da Gamondia,"—a statement which is corroborated by the fact that the details and many of the forms are essentially Northern; but it is equally certain that he was not allowed to control the whole, for all the great features of the church are as thoroughly Italian as the details are German: it is

therefore by no means improbable that Marco da Campione, as the Italians assert, or some other native artist, was joined with him or placed over him.

In size it is the largest of all mediæval cathedrals, covering 107,782 ft. In material it is the richest, being built wholly of white marble, which is scarcely the case with any other church, large or small; and in decoration it is the most gorgeous—the whole of the exterior is covered with tracery, and the amount of carving and statuary lavished



737. Section of Cathedral of Milan.[1] From Wiebeking. Scale 50 ft. to 1 in.

on its pinnacles and spires is unrivalled in any other building of Europe. It is also built wholly (with the exception of the façade) according to one design. Yet with all these advantages, the appearance of this wonderful building is not satisfactory to any one who is familiar with the great edifices on this side of the Alps. Cologne, if complete, would be more beautiful; Rheims, Chartres, Amiens, and Bourges leave a far more satisfactory impression on the mind; and even the much

[1] The plan and section being taken from two different writers, there is a slight discrepancy between the scales. I believe the plan to be the more correct of the two, though I have no means of being quite certain on the point.

smaller church of St. Ouen will convey far more pleasure to the true artist than this gorgeous temple.

The cause of all this it is easy to understand, since all or nearly all its defects arise from the introduction of Italian features into a Gothic building; or rather perhaps, it should be said, from a German architect being allowed to ornament an Italian cathedral. Taking

738. View of the Interior of Milan Cathedral. From Rosengarten.

the contemporary cathedral of St. Petronio at Bologna as our standard of comparison, it will be seen that the sections (woodcuts Nos. 735, 737) are almost identical both in dimensions and in form; but at the same time, it will be perceived that the German system prevailed in doubling the number of piers between the nave and side-aisles. So far, therefore, the German architect saved the church. The two small

clerestories, however, still remain; and although the design avoids the mullionless little circles of Bologna, there is only space for small openings, which more resemble the windows of an attic than of a clerestory. The greater quantity of light being thus introduced by the tall windows of the outer aisle, the appearance is that of a building lighted from below, which is fatal to architectural effect.

The model still preserved on the spot shews that the German architect designed great portals at each end of the transepts. This, however, was overruled in favour of two small polygonal apses. Instead of the great octagonal dome which an Italian would have placed upon the intersection of the whole width of the nave and transepts, German influence has confined it to the central aisle, which is perhaps more to be regretted than any other mistake in the building. The choir is neither a French chevet nor a German or Italian apse, but a compromise between the two, a French circlet of columns enclosed in a German polygonal termination. This part of the building, with its simple forms and three glorious windows, is perhaps an improvement on either of the models of which it is compounded.

This is the nearest approach to the French chevet arrangement to be found in all Italy. It is extremely rare in that country to find an aisle running round the choir, and opening into it, or with the circlet of apsidal chapels which is so universal in France. The Italian church is not, in fact, derived from a combination of a circular Eastern church with a Western rectangular nave, but is a direct copy from the old Roman basilica.

The details of the interior of Milan are almost wholly German (woodcut No. 738). The great capitals of the pillars, with their niches and statues, are the only compromise between the ordinary German form and the great deep ugly capitals—fragments, in fact, of classical entablatures—which disfigure the cathedrals of Florence and Bologna, and so many other Italian churches. Had the ornamentation of these been carried up to the springing of the vault, they would have been unexceptionable; as it is, with all their richness, their effect is unmeaning.

Externally, the appearance is very like that of Sta. Maria dei Fiori; the apse is rich, varied, and picturesque, and the central dome (excepting the details) similar, though on a smaller scale, to what I believe to have been the original design of the Florentine church. The nave is nearly as flat as at Florence, the clerestory not being visible; but the forest of pinnacles and flying buttresses and the richness of the ornamentation go far to hide that defect. The façade was left unfinished, as was so often the case with the great churches of Italy. Peliegrini was afterwards employed to finish it, and a model of his design is still preserved. It is fortunate that his plan was not carried out. The façade was finished, as we now see it, from the designs of

Amati, by order of Napoleon. It is commonplace, as might be expected from its age, but inoffensive. The doorways are part of Pellegrini's design, and the mediæval forms being placed over those of the cinquecento, produce a strangely incongruous effect. For the west front several original designs are still preserved. One of these, with two small square towers at the angles, as at Vercelli and elsewhere, was no doubt the Italian design. The German one (woodcut No. 739) is preserved by Bassi:[1] had this been executed, the façade would have been about one-third (viz. 100 ft.) wider than that of Cologne. Had the height of the towers been in the same proportion, they would have been the tallest in the world. In that case the effect here, as at Cologne, would have been to shorten and overpower the rest of the building to a painful extent. A design midway between the two, with spires rising to the same height as the central one, or about 360 ft., would perhaps have the happiest effect. At any rate, the want of some such features is greatly felt in the building as it stands.

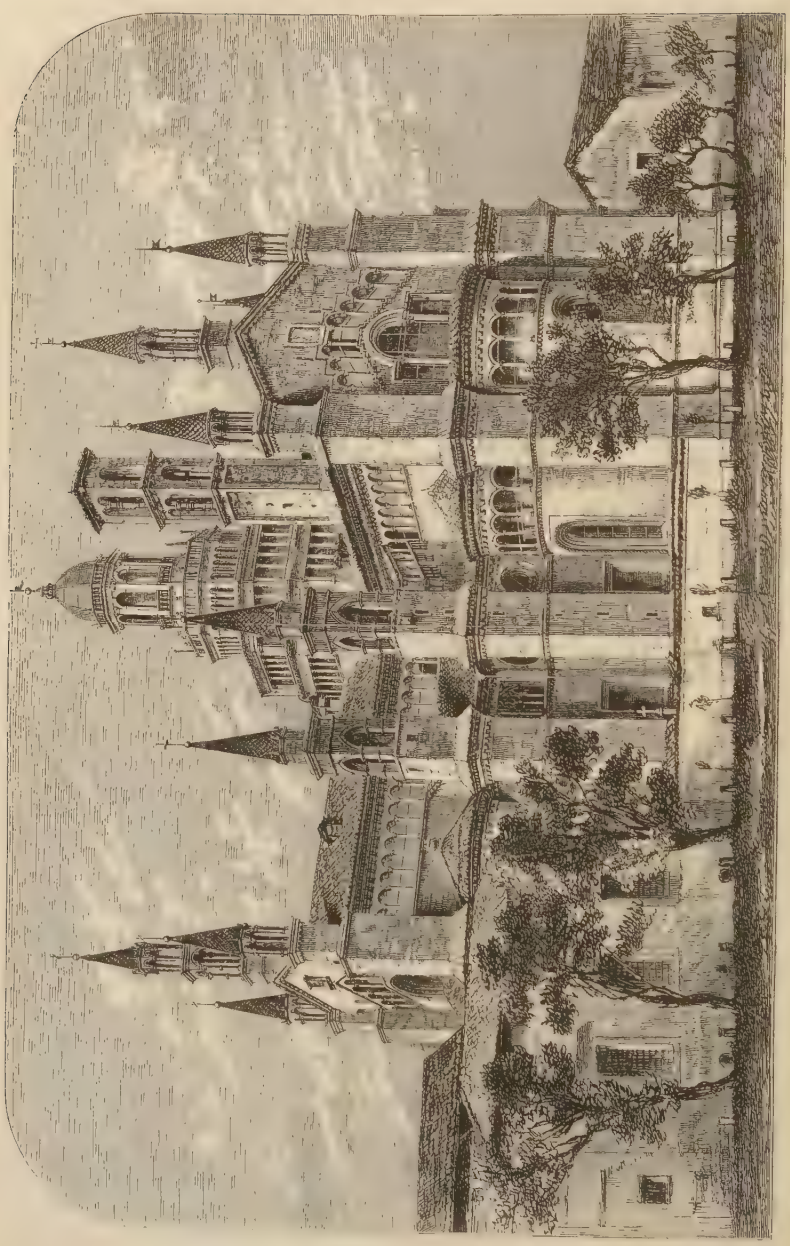
739. Design for Façade of Milan Cathedral. From Bassi.

The Certosa, near Pavia, was commenced about the same date (1396) as the cathedral at Milan. It is seldom that we find two buildings in the middle ages so close to one another in date and locality, and yet so dissimilar. There is no instance of such an occurrence on this side of the Alps, till modern times; and it shows that in those days the Italians were nearly as devoid of any distinct principles of architecture as we have since become.

The great difference between Pavia and Milan is that the former shews no trace of foreign influence. It is as purely Italian as St. Petronio, and perhaps even worse in design—internally at least—which is saying a good deal. Nothing, however, can be more painful than the disproportion of the parts, the bad drawing of the details, the malformation of the vaults, and the meanness of the windows; though all these defects are completely hidden by the most gorgeous colouring, and by furniture of such richness as to be almost unrivalled. So attractive are these two features to the majority of spectators, and so easily understood, that nine visitors out of ten are delighted with the Certosa, and entirely forget its miserable architecture in the richness and brilliancy of its decorations.

Externally the architecture is better than in the interior. From its proximity to Pavia, it retains its beautiful old galleries under the roof. Its circular apses, with their galleries, give to this church, for the age to which it belongs, a peculiar character, harmonizing well with the cir-

[1] 'Dispareri d'Architectura.'



740. View of the Certosa, near Pavia. From a Photograph.

cular-headed form, which nearly all the windows and openings present. Even in the interior there are far more circular than pointed arches.

The most beautiful and wonderful part of the building is the façade. This was begun in 1473, and is one of the best specimens in Italy of the Renaissance style. It would hardly, therefore, be appropriate to mention it here, were it not that the dome over the intersection of the nave and transepts is of the same age and style, but reproduces so exactly (except in details) what we fancy the Mediæval Italian Gothic dome to have been, that it may be considered as a feature of the earlier ages. Referring to woodcut No. 733, it will be seen how like it is to that of Chiaravalle in outline. It is less tall, however, and if translated into the details of the great church at Florence, would fit perfectly on the basement there prepared for such a feature.

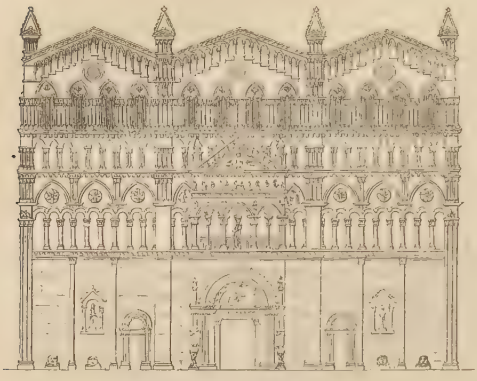
Like many other churches in Northern Italy, the principal parts of the Certosa are built in brick, and the ornamental details executed in terra-cotta. Some of the latter, especially in the cloisters, are as beautiful as any executed in stone in any part of Italy during the middle ages; and their perfect preservation shows how suitable is the material for such purposes. It may not be appropriate for large details or monumental purposes, but for the minor parts and smaller details, when used as the Italians in the middle ages used it, terra-cotta is as legitimate as any material anywhere used for building purposes; and in situations like the alluvial plains of the Po, where stone is with difficulty obtainable, its employment was not only judicious but most fortunate in its results.

It would be a tedious and unprofitable task to attempt to particularize all the churches which were erected in this style in Italy, as hardly one of them possesses a single title to admiration beyond the very vulgar one of size. To this Santa Croce, at Florence, adds its association with the great men who lie buried beneath it, and Sta. Maria Novella can plead the circumstance—exceptional in that city—of possessing a façade; but neither of these has anything to redeem its innate ugliness in the eyes of an architect.

There are two great churches of this period at Venice, the San Giovanni e Paolo (1246–1420), and the Frari (1250); they are large and richly ornamented fabrics, but are both entirely destitute of architectural merit.

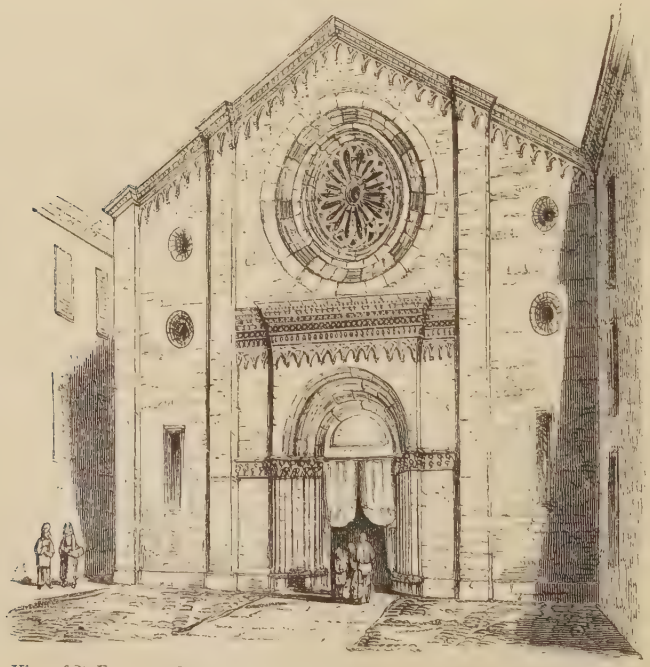
A much more beautiful building is the Cathedral at Como, the details of which are so elegant and so unobtrusively used as in great measure to make up for the bad arrangement and awkward form of the whole. In design it is, however, inferior to that of the Duomo at Ferrara (woodcut No. 741). The latter does not display the richness of the façades of Siena or Orvieto, nor the elegance of that last named; but among the few Italian façades which exist, it stands pre-eminent for sober propriety of design and the good proportions of all its parts. The repose caused by the soli-

dity of the lower portions, and the gradual increase of ornament and lightness as we ascend, all combine to render it harmonious and pleasing. It is true it wants the aspiring character and bold relief of Northern façades; but these do not belong to the style, and it must suffice us to meet with a moderate amount of variety, undisturbed by any very prominent instances of bad taste.



741. Duomo at Ferrara. From Hope's 'Architecture.' Scale 50 ft. to 1 in.

The true type of an Italian façade is well illustrated in the view of of St. Francesco at Brescia (woodcut No. 742), which may be considered the germ of all that followed. Whether the church had three aisles or five, the true Italian façade in the age of pointed architecture was always a modification or extension of this idea, though introduced with more or less Gothic feeling according to the circumstances of its erection.

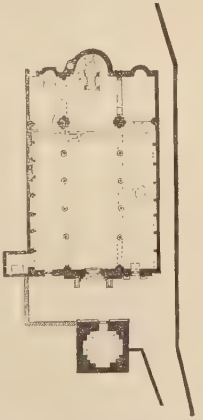


742. View of St. Francesco, Brescia. From Street's 'Brick and Marble in the Middle Ages.'

At Florence there is a house or warehouse, converted into a church, —Or (horreum) San Michele, which has attracted a good deal of attention, but more on account of its curious ornaments than for beauty of design—which latter it does not, and indeed can hardly be expected to possess. The little chapel of Sta. Maria della Spina, at Pisa, owes its celebrity to the richness of its niches and canopies, and to the sculpture which they contain. In this the Italians were always at home, and probably always surpassed the Northern nations. It was far otherwise with architecture, properly so called. This, in the age of the pointed style, was in Italy so cold and unmeaning, that we do not wonder at the readiness with which the Italians returned to the classical models. They are to be forgiven in this, but we cannot so easily forgive *our* forefathers, who abandoned a style far more beautiful than that of Italy to copy one which they had themselves infinitely surpassed; and this only because the Italians, unable either to comprehend or imitate the true principles of pointed art, were forced to abandon its practice. Unfortunately for us, they had in this respect sufficient influence to set the fashion to all Europe.

Toscanella.

On the boundary line which separates the Guelfic from the Ghibelline influence, there exist at Toscanella, near Viterbo, two churches of great beauty of detail; but which, as might almost be predicated from their situation, defy any attempt at classification. They are not Gothic, for they have no vaults, nor does their style suggest any vaulting contrivances. They are not Romanesque, for the tracery of their circular windows, their many-shafted doors, and generally their details, are such as to indicate a Northern rather than a Roman affinity. Still less is there any trace of Byzantine work about them. Under these circumstances, it is better to treat them as exceptional; than to attempt to give them a name which might mislead without conveying any correct information.

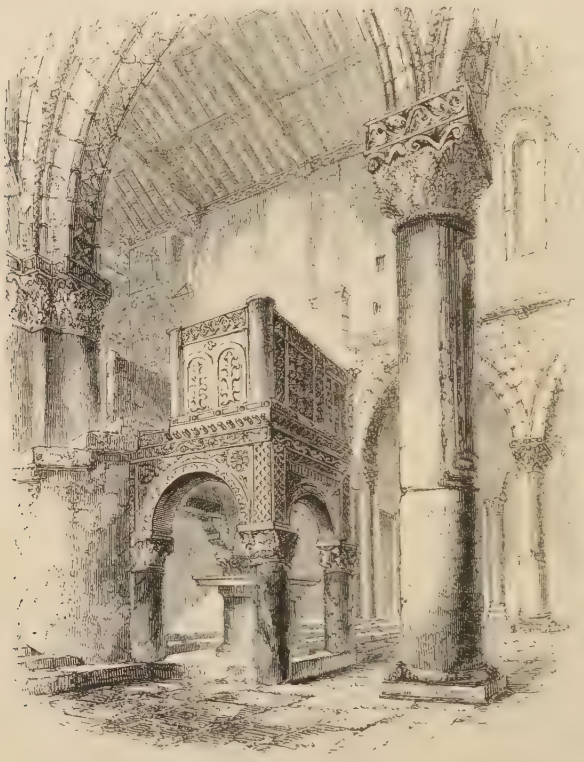


743. Plan of Sta. Maria, Toscanella. From Gailhabaud. Scale 100 ft. to 1 in.

The elder of these two churches, Sta. Maria, was erected in the beginning of the 13th century (1206?), but is so unlike most buildings of that age, that it is usually ascribed to the 6th or 7th. On a close examination, however, all its details are found to be full of advanced Gothic feeling, though used with Romanesque forms. The pillars are rude Corinthian, with a Gothic abacus. They are widely spaced, having no vault to support; and the mouldings of the arches are what we should call "Transitional Early English."

Externally the façade is too plain to be quite pleasing, but this

arises from its depending originally on painting for its decoration—some traces of which still remain, but the greater part has perished. Its three doorways are richly and beautifully ornamented with shafts and sculptured foliage, quite equal in detail to anything of the class to be found in Italy, and its great circular window would not be thought out of place at Chartres or Lincoln.

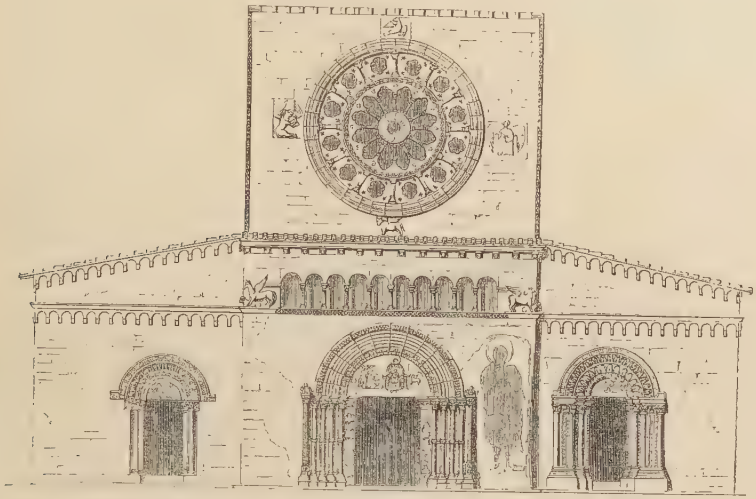


744. View of the Interior of Sta. Maria, Toscanella. From Gailhabaud.

The church of St. Pietro is probably a century later than that of Sta. Maria, and its façade is richer and more elegant—a difference arising more from those details being in this instance carved which in the earlier church were painted. The design, however, deserves attention, for its historical, perhaps, even more than its artistic claims; for it was this class of façade that Palladio and the architects of the cinque-cento period seized upon, and, applying pilasters and pediments of classical type, converted it into the fashionable churches which are to be found in every part of Europe.[1]

[1] The typical example of this class is the San Giorgio at Venice, though it is not by any means the one most like St. Pietro; many attempts were made before it became so essentially classical as this (see woodcut No. 39 in 'History of Modern Architecture').

The difficulty which the Italians never entirely conquered, was how to amalgamate the sloping lines of the roofs of the aisles with the horizontal lines of the rest of the façade. The gallery over the central doorway enabled them very nearly to accomplish it in these Toscanella churches, and if the same string-courses had been carried all across, the whole might have been harmonized; but it was just missed, and what is strange, more so in the second than in the first example.



745. Elevation of the Exterior of Sta. Maria, Toscanella. From Gailhabaud. No scale.

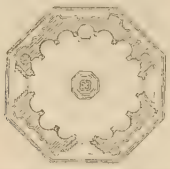
CHAPTER IV.

CONTENTS.

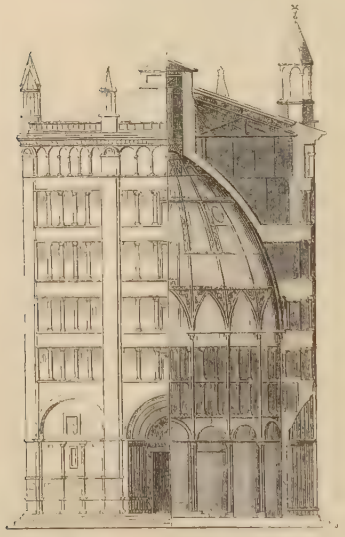
Circular churches — Towers at Prato and Florence — Porches — Civic buildings — Town-halls — Venice — Doge's palace — Cà d'Oro — Conclusion.

Circular Buildings.

There are very few specimens in Italy of circular or polygonal buildings of any class belonging to the Gothic age. As churches none are to be expected. Baptisteries had passed out of fashion. One such building, at Parma, commenced in 1196, deserves to be quoted, not certainly for its beauty, but as illustrating those false principles of design shown in every part of every building of this age in Italy. Externally the building is an octagon, six storeys in height, the four upper ones being merely used to conceal a dome, which is covered by a flat wooden roof. The lowest and the highest storeys are solid, the others are galleries supported by little ill-shaped columns. It is probable that this was not the original design of the architect, Antelami. No doubt he intended to conceal the dome, or at all events to cover it, as was the universal practice in Italy; but instead of a mere perpendicular wall as here used, the external outline should have assumed a conical form, which might have rendered it as pleasing as it is now awkward. We have no instance of a circular building carried out by Italian architects according to their own principles, sufficiently far to enable us to judge what they were capable of in this style, unless perhaps it be the tombs of the Scaligers at Verona. These take the



746. Baptistery, Parma. Scale 100 ft. to 1 in.



747. Baptistery at Parma, half Section, half Elevation. Scale 50 ft. to 1 in.

circular or polygonal form appropriate to tombs, but are on so small a scale that they might rather be called crosses than mausolea; and though illustrating all the best principles of Italian design, and evincing an exuberance of exquisite ornament, they can hardly be regarded as important objects of high art. It is only from small buildings like these, that we may recover the principles of this art as practiced in Italy. Not being, like the Northern styles, a progressive national effort, but generally an individual exertion, if the first architect died during the progress of a larger building, no one knew exactly how he had intended to finish it, and its completion was entrusted to the caprice and fancy of some other man, which he generally indulged, wholly regardless of its incongruity with the work of his predecessor.

Towers.

The Italians in the age of pointed architecture were hardly more successful in their towers than in their other buildings, except that a tower, from its height, must always be a striking object, and, if both massive and high, cannot fail to have a certain imposing appearance, of which no clumsiness on the part of the architect can deprive it. Such towers as the Asinelli and Garisenda at Bologna possess no

318. View of the Duomo at Prato. From Wiebeking.

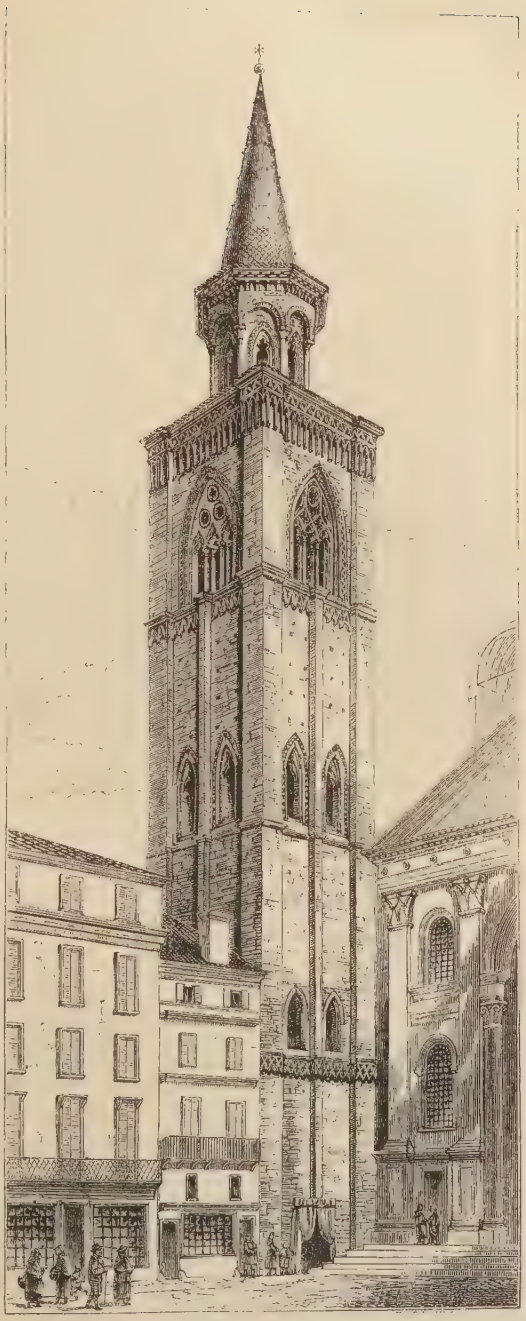
more architectural merit than the chimneys of our factories. Most of those subsequently erected were better than these, but still the Italians never caught the true idea of a spire.

749. Campanile, Palazzo Scaligeri, Verona. From Street.

Throughout the whole of the middle ages they retained their affection for the original rectangular form, making their towers as broad at the summit as at the base. With very few exceptions, they are without buttresses, or any projection on the angles, to aid in giving them even an appearance of support. In consequence, when a spire was placed on such an edifice it always fitted awkwardly. The art by which a tower was prepared for its termination, first by the graduated buttresses at its base, then by the strongly marked vertical lines of its upper portion, and above all by the circle of spirelets at the top, out of which the central spire shot up as an absolute necessity of the composition--this art, so dear and so familiar to the Northern builders, was never understood by the Italians. If they, on the contrary, placed an octagon on their square towers, it looked like an accident for which nothing was prepared, and

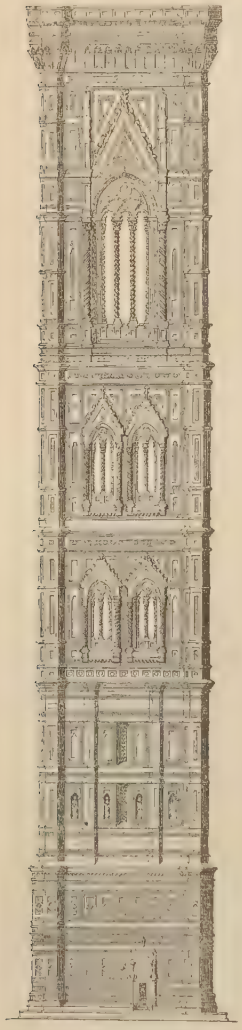
the spire was separated from it only by bold horizontal cornices, instead of by vertical lines, as true taste dictated.

In fact, the Italians seem to have benefited less by the experience or instruction of their Northern neighbours in tower-building than in any other feature of the style, and to have retained their old forms in these after they had abandoned them in other parts of their churches. The towers of Asti (1266) and Siena (rebuilt in 1389) are illustrated in woodcuts Nos. 724 and 729. They certainly display but little art. A more pleasing specimen is the tower (woodcut No. 748) attached to the Duomo at Prato (about 1312), which may be considered as a specimen of the very best class of Italian tower-design of the age, although in fact its only merit consists in the increase in the size of the openings in every storey upwards, so as to give a certain degree of lightness to the upper part.



750. Campanile, S. Andrea, Mantua. From Strect.

On this side of the Alps the same effect was generally attained by diminishing the diameter. When a spire is to be added, that is the only admissible mode; but when the building is to be crowned by a cornice, as at Prato, the mode there adopted is perhaps preferable.



751. Campanile at Florence. From Gailhabaud. Scale 50 ft. to 1 in.

The tower which is attached to the palace of the Scaligeri at Verona (woodcut No. 749) is perhaps as graceful as any other, and as characteristic of the Italian principles of tower-building. The lower part is absolutely plain and solid, the upper storey alone being pierced with one splendid three-light window in each face, with a boldly projecting cornice over it marking the roof. On this is placed an octagon lantern two storeys in height. Had the lower portion of the lantern been broken by turrets or pinnacles at the angles, the effect would have been greatly increased. As it is, it seems only a makeshift to eke out the height of the whole; though the octagon with its boldly projecting cornice is as graceful as anything of the kind in Italian architecture.

The campanile attached to the church of St. Andrea at Mantua (woodcut No. 750) is more nearly Gothic both in design and details. Its vertical lines are strongly marked, and the string-courses and cornices are of moulded brick-work, which is a pleasing and characteristic feature in the architecture of Lombardy.

The worst part of this design is the smallness of the octagon and spire, and the unconnected mode in which they are placed on the roof of the tower.

The typical example of Italian towers is that erected close to the Duomo at Florence from designs by Giotto, commenced in 1324, and considerably advanced, if not nearly finished, at the time of his death two years afterwards.

Though hardly worthy of the praise which has been lavished on it, it is certainly a very beautiful building. Being covered with ornament from the base to the summit, it has not that nakedness which is the reproach of so many others, and the octagonal projections at the angles give it considerable relief. Besides this, the openings are very pleasingly graduated. It is virtually solid for about one-third of its height. The middle division consists of two storeys,

each with two windows, while the upper part is lighted by one bold opening on each face, as at Prato. All this is good. One great defect of the composition is its parallelism. The slightest expansion of the base would have given it great apparent stability, which its height requires. Another fault is its being divided by too strongly marked horizontal courses into distinct storeys, instead of one division falling by imperceptible degrees into the other, as in Northern towers. It has yet another defect in common with the Duomo to which it belongs, namely, the false character of its ornamentation, which chiefly consists of a veneer of party coloured slabs of marble,—beautiful in itself, but objectionable as not forming a part of the apparent construction.

The tower now rises to a height of 269 ft., and it was intended to have added a spire of about 90 ft. to this; but unless it had been more gracefully managed than is usual in Italy, the tower is certainly better without it. There is nothing to suggest a spire in the part already executed, nor have we any reason to believe that Giotto understood the true principles of spire-building better than his contemporaries.

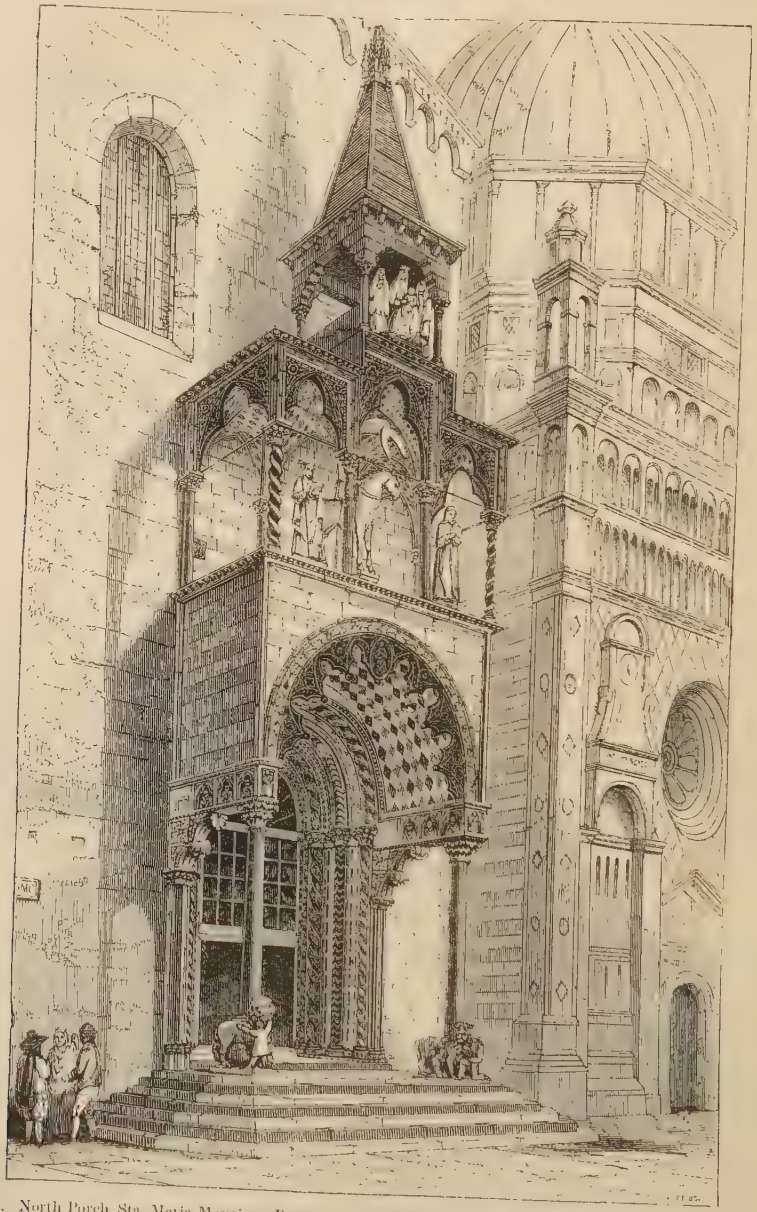
We may here notice the Toraccio of Cremona, though not an ecclesiastical edifice. It is a monumental tower commmenced in 1296 to commemorate a peace made between Cremona and the neighbouring states after a long and tedious contest for supremacy. It partakes, therefore, like those of St. Mark's, Venice, and of Modena, more of the character of a civic belfry than of a church tower, such as those previously mentioned. It is the highest and largest, and consequently, according to the usual acceptation of the term, the finest, of Italian towers. Its whole height is 396 ft., about two-thirds of which is a square ungainly mass, without either design or ornament of any importance. On this is placed an octagon and spire, which, though in themselves perhaps the best specimens of their class in Italy, have too little connexion either in design or dimensions with the tower on which they stand.

Porches.

Another feature very characteristic of the Gothic style in Italy is to be found in the porches attached to the churches. Generally they are placed on the flanks, and form side-entrances, and in most instances they were added after the completion of the body of the building, and consequently seldom accord in style with it. One has already been illustrated as attached to the church at Asti (woodcut No. 724); another, belonging to the church of Sta. Maria dei Fiori at Florence, is an integral and beautiful part of the design.

One of the most characteristic specimens of the class in all Italy is that attached to the northern flank of the church of Sta. Maria Maggiore at Bergamo (woodcut No. 752). The principal archway and the doorway within it are circular in form, although built in the middle of the 14th century, and are ornamented with trefoils and other details

of the age. Above this are three trefoiled arches, the central one containing an equestrian statue of a certain Duke Lupus, at whose expense



752. North Porch, Sta. Maria Maggiore, Bergamo. From Street's 'Brick and Marble of the Middle Ages.'

the porch was probably built, and above these is a little pagoda-like pavilion containing statues of the Virgin and Child.

The whole design is so unconstructive that it depends more on the iron ties that are everywhere inserted to hold it together than on any system of thrusts or counterpoises, which a true Gothic architect would certainly have supplied.

The two main pillars rest on lions, as is universally the case in these porches throughout Italy, though rarely found elsewhere.

Like most of these Italian porches, this one will not stand criticism as a purely architectural object; but its details are so beautiful and its colour so fascinating that it pleases in spite of all its defects of design, and is more characteristic of the truly native feeling shown in the treatment of the pointed style of architecture than the more ambitious examples which were erected under direct foreign influence.

Civic Buildings.

The free towns of Italy required civic buildings almost to the same extent as the contemporary cities in Belgium, though not quite of the same class. Their commerce, for instance, did not require trade-halls, but no town was without its town-hall, or *palazzo publico*, and belfry. The greater intrinsic difficulty of buildings of this class, as compared with churches, has already been pointed out. It cannot therefore be expected that the Italians who failed in the easier task should have succeeded in the harder. The town-hall at Siena is perhaps the best existing example, most of the others having been so altered that it is difficult to judge of their original effect. This must be pronounced to be a very poor architectural performance, flat and unmeaning, and without any lines or style of ornament to group the windows together into one composition, so that they are mere scattered openings in the wall.

That at Perugia seems originally to have been better, though now greatly disfigured. At Florence the Palazzo Vecchio is more of a feudal fortalice (required, it must be confessed, to keep the turbulent citizens in order) than the municipal palace of a peaceful community. In Ferrara and other cities the *palazzo publico* is really and virtually a fortress and nothing else.

At Piacenza it consists of a range of bold pointed stone arches, supporting an upper storey of brick, adorned with a range of circular-headed windows, richly ornamented, and a pleasing specimen of the mode in which the Italians avoided the difficulty of filling the upper parts of their windows with tracery (which they never liked), and at the same time rendered them ornamental externally.

At Padua and Vicenza are two great halls supported on arcades, in intention like that of Piacenza, but far from possessing its beauty. That at Padua remains in all its pristine ugliness, as hideous an erection as any perpetrated in the middle ages. The hall is one of

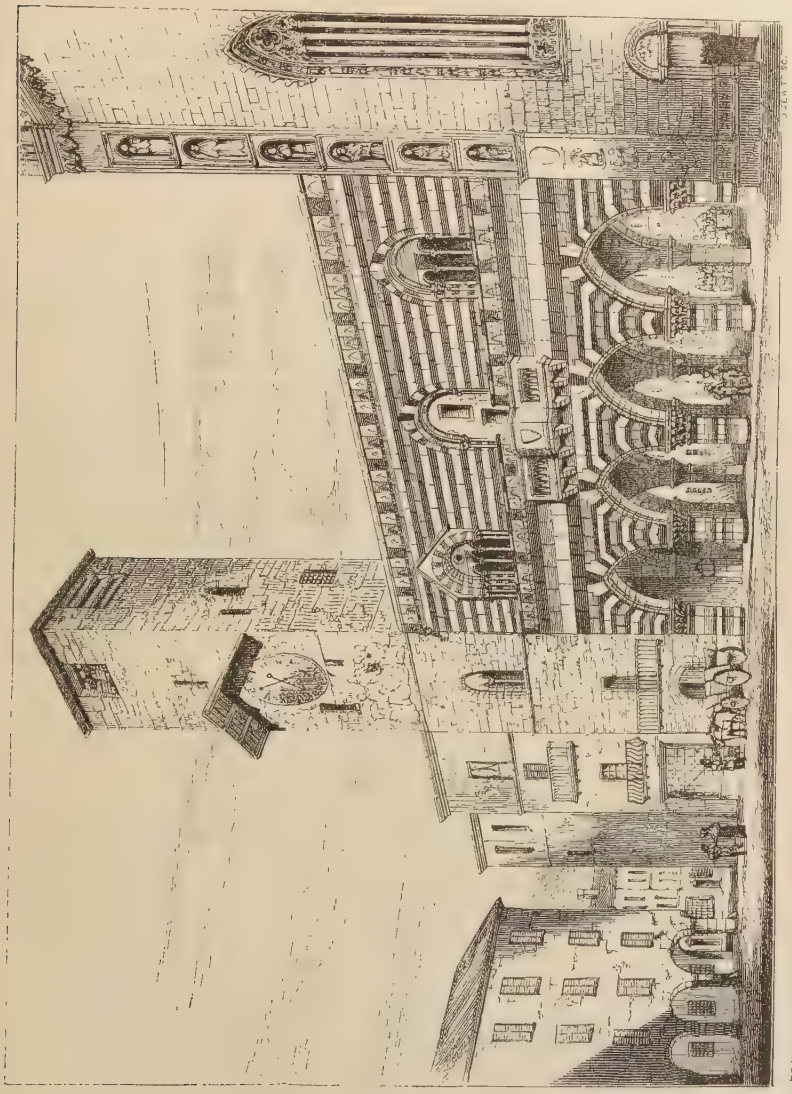
the largest in Europe, measuring 240 ft. in length by 84 in width (Westminster Hall is 238 × 67), but wholly without ornament or beauty of proportion. Externally the arcades that are stuck to its sides do not relieve its mass, and are not beautiful in themselves. That at Vicenza, though originally very similar, has been fortunate in having its outside clothed in one of Palladio's most successful designs,—perhaps the only instance in which an addition of that

753. Palace of the Jurisconsults at Cremona. From Street.

age and style has improved a building of the Gothic period. Comparing this hall as it stands with that at Padua, it must be admitted that the Italians were perfectly correct in abandoning their Gothic for the revived classical style, the improvement being apparent on the most cursory inspection.

A number of the town-halls or Brolettos in the smaller towns still remain unaltered, or nearly so, and retain all the peculiarities of their

original design. The Palace of the Jurisconsults at Cremona for instance (woodcut No. 753) only requires its lower arcades to be again opened to present all its original features, which resemble in almost every respect those of the palazzo at Piacenza above mentioned, except that the latter



Broletto at Como. From Street.

754.

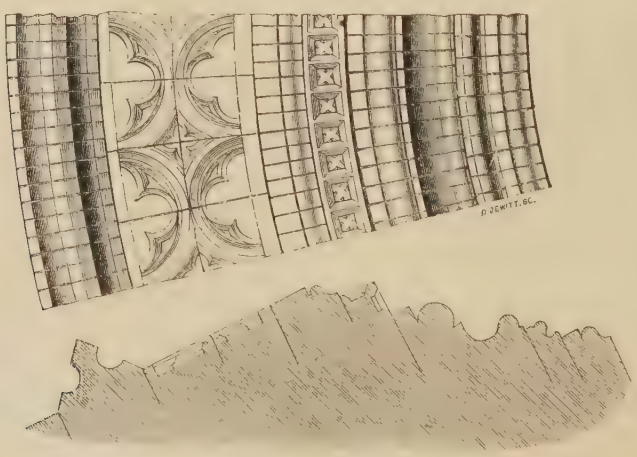
has five arches below and six windows above, instead of two and three as here shewn. This building is wholly of brick, like most other civic buildings in the North of Italy. Sometimes, as at Piacenza, they are of stone below and brick in the upper storeys. Sometimes, though rarely,

they are entirely faced with party-coloured marbles like the Broletto at Como (woodcut No. 754), which, though not extensive, is a very beautiful specimen of the best form of civic architecture of the best age in the North of Italy, and standing as it does between the cathedral on the one hand and its own rude old belfry on the other, makes up an extremely pleasing group.[1]

One of the most important buildings of this style is the Great Hospital, Milan. It was founded in the year 1456, and consequently belongs to an age when the style was dying out. It still retains more of the pointed style and of Gothic feeling than could have been found in any city farther south, or in any one less impregnated, as it were, with German blood and feeling.

Almost all the windows in the part originally erected are pointed in form and divided by mullions. Their principal ornament consists of garlands of flowers interspersed with busts and masks and figures of Cupids, which surround the windows, or run along the string-courses. The whole of these are in terra-cotta, and make up a style of ornamentation as original as it is beautiful. It is besides purely local, and far superior to the best copies of Northern details, or to the misapplied forms of Gothic architecture which are so common in Italy.

There is perhaps nothing in the North of Italy so worthy of admiration, and study, as the way in which moulded bricks of various kinds are used for decoration, especially in the civic buildings, and also occasionally in the churches. Sublimity is not perhaps to be attained in brickwork; the parts are too small; and if splendour is



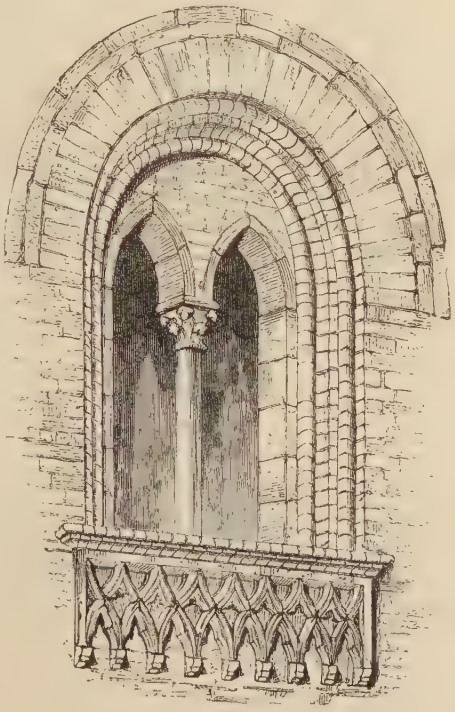
755. Ornamental Brickwork from the Broletto at Brescia. From Street.

[1] Similar buildings at Bergamo, Brescia, and Monza are illustrated in Mr. Street's beautiful work on the Architecture of the North of Italy, from which the two last illustrations are borrowed.

aimed at, it may require some larger and more costly material to produce the desired effect; but there is no beauty of detail or of design on a small scale that may not be obtained by the use of moulded bricks, which are in themselves far more durable, and, if carefully burnt, retain their sharpness of outline longer, than most kinds of stone.

The most common way in which the Italians used this material was by repeating around their openings or along their cornices small copies of Gothic details, as in this example from a circular window in the Broletto at Brescia (woodcut No. 755). Where the details are small and designed with taste, the effect is almost equal to stone; but where the details are themselves on a large scale, as is sometimes the case, the smallness of the materials becomes apparent. Even in this example the semi-quatrefoils of the principal band are too large for the other details, though not sufficiently so to be offensive.

Though not so rich, the effect is almost equally pleasing where the brick is merely moulded on its edge, without any very direct repetition of Gothic details, as in the upper part of the window shewn in woodcut No. 756, from the cathedral of Monza. Where great depth is given so as to obtain shadow, and long tiles are used for the upper arch, as was done by the Romans, an appearance of strength and solidity is given to the construction unsurpassed by that obtained in any other material.



756. Window from the Cathedral of Monza. From Street.

Perhaps the most pleasing application of terra-cotta ornaments is where bricks of different colours are used so as to produce by variety of pattern that relief which cannot so well be given by depth of shadow,—a perfectly legitimate mode of ornament when so small a material is used, and when beauty only, not sublimity, is aimed at.

This is sometimes produced in Italy by introducing stone of a

different colour among the bricks, as in the two examples from Verona (woodcuts Nos. 757, 758); and where this mode of ornamentation is carried throughout the building, the effect is very pleasing. It is difficult, however, so to proportion the two materials as to produce exactly the effect aimed at, and seldom that the objection does not present itself of too much or too little stone being used. The want of shadow in brick architecture is most felt in the cornices, where sufficient projection cannot be obtained. The defect might be easily and legitimately got over by the employment of stone in the upper members of the cornice, but this expedient seems never to have been resorted to.

757.

758.

Windows from Verona. From Street.

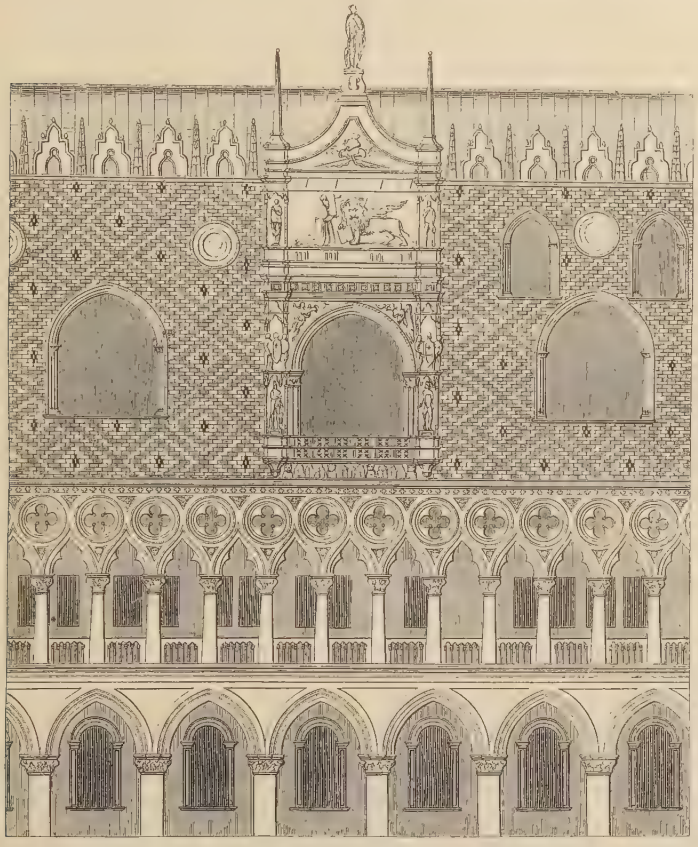
There are few of these brick buildings of the North of Italy which are not open to just criticism for defects of design or detail, but this may arise from the circumstance that they all belong to an age when the Italians were using a style which was not their own, and employing ornaments of which they understood neither the origin nor the application. The defects certainly do not appear to be at all inherent in the material, and, judging from the experience of the Italians, were we to make the attempt in a proper spirit, we might create with it a style far surpassing anything we now practise.

Venice.

The most beautiful specimens of the civil and domestic architecture of Italy in the Gothic period are probably to be found in Venice, the richest and most peaceful of Italian cities during the middle ages. It is necessary to speak of the buildings of Venice, or more correctly, of the Venetian Province, by themselves, since its architecture is quite distinct both in origin and character from any other found in Northern Italy. It was not derived from the old Lombard round Gothic, but from the richer and more graceful Byzantine. True to its parentage, it partook in after ages far more of the Southern Saracenic style than

of the Northern Gothic, still it cannot be classed as either Byzantine or Saracenic, but only as Gothic treated with an Eastern feeling, and enriched with many details borrowed from Eastern styles.

The largest and most prominent civic example of Venetian Gothic is the Doge's Palace, commenced in 1354 (woodcut No 759), a building which all the world agreed till very lately in thinking very ugly, though an attempt has recently been made to exalt it above the Parthenon, and



759. Central Part of the Façade of the Doge's Palace, Venice. From Cicognara.

all that was great and beautiful in Greece, Egypt, or Gothic Europe. There are indeed few buildings of which it is so difficult to judge calmly, situated as it is, attached to the basilica of St. Mark, facing the beautiful library of Sansovino, and looking on the one hand into the piazza of St. Mark's, and on the other across the water to the churches and palaces that cover the islands. It is, in fact, the centre of the most beautiful architectural group that adorns any city of

Europe or of the world—richer than almost any other building in historical associations, and in a locality hallowed, especially to an Englishman, by the poetry of Shakespeare. All this spreads a halo around and over the building, which may furnish ample excuse for those who blindly praise even its deformities. But the soberer judgment of the critic must not be led astray by such feelings, and while giving credit for the picturesque situation of this building and a certain grandeur in its design, he is compelled wholly to condemn its execution. The two arcades which constitute the base are, from their extent and the beauty of their details, as fine as anything of their class executed during the middle ages. There is also a just and pleasing proportion between the simple solidity of the lower, and the airy —perhaps slightly fantastic—lightness of the upper of these arcades. Had what appears to have been the original design been carried out, the building would rank high with the Alhambra and the palaces of Persia and India; but in an evil hour, in 1480, it was discovered that larger rooms were required than had been originally contemplated, and the upper wall, which was intended to stand on the back wall of the arcades, was brought forward even with the front, overpowering the part below by its ill-proportioned mass. This upper storey too is far from being beautiful in itself. The windows in it are not only far too few, but they are badly spaced, squat, and ungraceful; while the introduction of smaller windows and circles mars its pretensions to simplicity without relieving its plainness. Its principal ornaments are two great windows, one in the centre of each face, which appear to have assumed their present form after the fire in 1578. These are not graceful objects in themselves, and having nothing in common with the others, they look too like insertions to produce an entirely satisfactory effect. The pierced parapet, too, is poor and flimsy when seen against the sky. Had it crowned the upper arcade, and been backed by the third storey, it would have been as pleasing as it is now poor. Had the upper storey been set back, as was probably originally designed, or had it been placed on the ground and the arcades over it; had, in short, any arrangement of the parts been adopted but the one that exists, this might have been a far more beautiful building than it is. One thing in this palace is worth remarking before leaving it—that almost all the beauty ascribed to its upper storey arises from the polychromatic mode of decoration introduced by disposing pieces of different coloured marbles in diaper patterns. This is better done here than in Florence; inasmuch as the slabs are built in, not stuck on. The admiration which it excites is one more testimony to the fact that when a building is coloured, ninety-nine people in a hundred are willing to overlook all its faults, and to extol that as beautiful, which without the adjunct of colour they would have unanimously agreed in condemning.

A better specimen of the style, because erected as designed, and remaining nearly as erected, is the Cà d'Oro (woodcut No. 760), built about 1350, or nearly contemporary with the ducal palace. It has no trace of the high roofs or aspiring tendencies of the Northern buildings of the same age, no boldly-marked buttresses in strong vertical lines, but on the contrary flat sky-lines and horizontal divisions pervade the design, and every part is ornamented with a fanciful richness far more characteristic of the luxurious refinement of the East than of the manlier appreciation of the higher qualities of art which distinguished the contemporary erections on this side of the Alps.

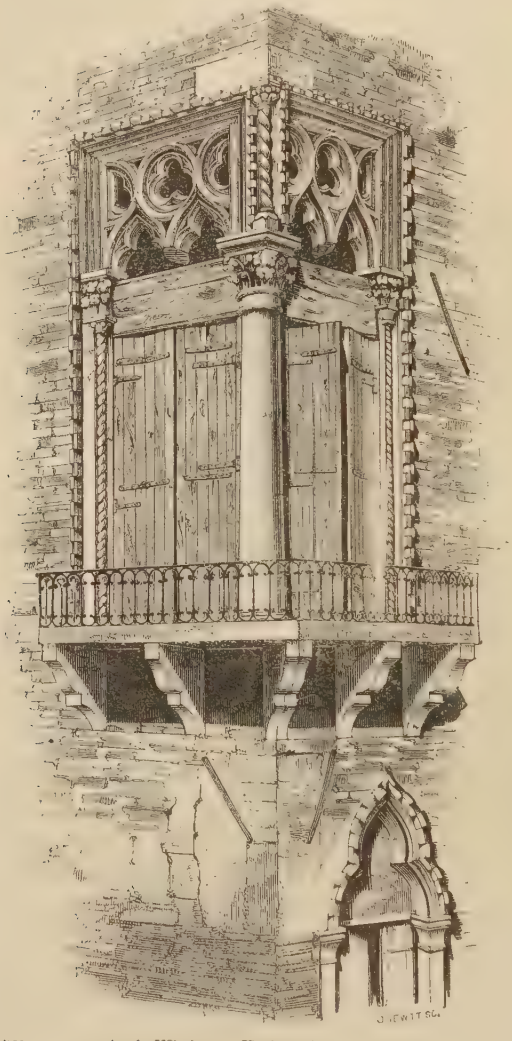
760. Cà d'Oro, Venice. From Cicognara.

10 20 30 40 50 feet.

The palaces known as the Foscari and Pisani are very similar in design to that of Cà d'Oro, though less rich and less happy in the distribution of the parts; but time has lent them that colour which was an inherent part of the older design, and they are so beautiful and so interesting that it is hard to criticise even their too apparent defects as works of art. Most of the faults that strike us in the buildings of Venice arise from the defective knowledge which they betray of constructive principles. The Venetian architects had not been brought up in the hard school of practical experience, nor thoroughly grounded in construction, as the Northern architects were by the necessities of the large buildings which they erected. On the contrary, they merely adopted details because they were pretty, and used them so as to be picturesque in domestic edifices, where convenience was everything, and construction but a secondary consideration. For instance, the window here shown (woodcut No. 761) cannot fail to

give the building in which it occurs an appearance of weakness and insecurity quite inexcusable in spite of its external picturesqueness or its internal convenience.

The same remark applies to the screen (woodcut No. 762) above the Ponte del Paradiso, which, though useless and unconstructive to the last degree, by its picturesque design and elegant details arrests all travellers. Indeed it is impossible to see it without admiring it, though, if imitated elsewhere, it could hardly be saved from being ridiculous.

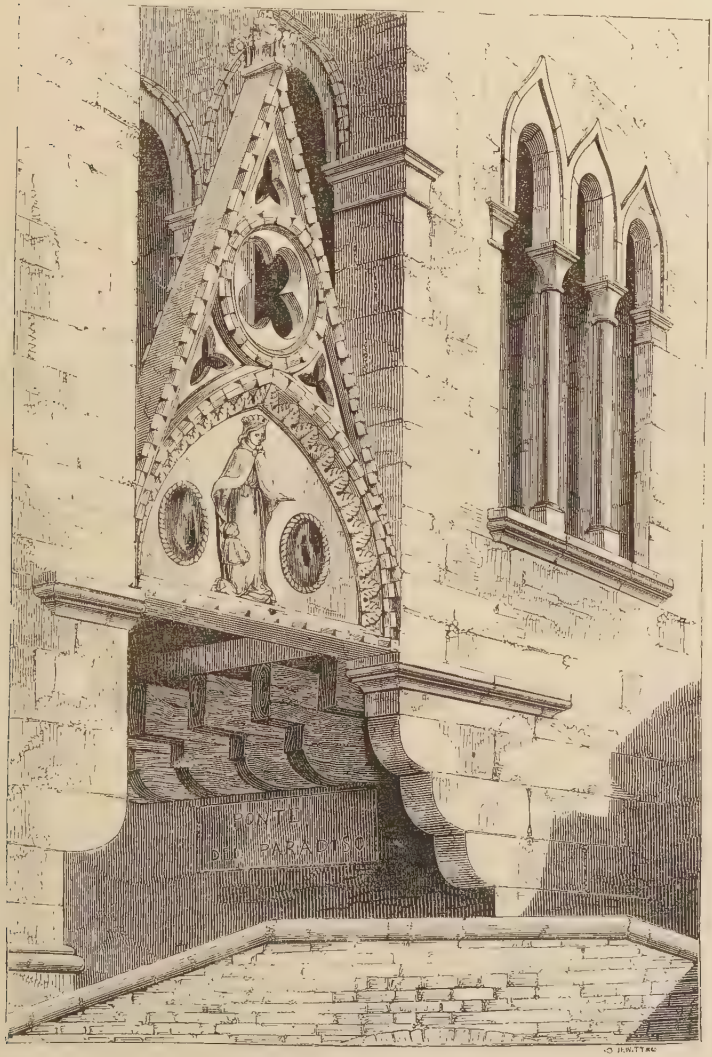


761. Angle Window at Venice. From Street.

Both these examples are surrounded by a curious dental moulding which is peculiar to Venice, and which, though rarely found elsewhere, is hardly ever omitted round any of the arches of the churches or private buildings of this city during the pointed Gothic period.

There are, besides these, many smaller palaces and houses of the Gothic age, all more or less beautiful, and all presenting some detail or some happy arrangement well worthy of study, and usually more refined and more beautiful than those of the rude but picturesque dwellings of the burghers of Bruges or Nuremberg.

The mixed Gothic style which we have been describing appears to have exerted a considerable effect on the subsequent palatial architecture of Venice. The arrangement of the façades remained nearly the same down to a very late period; and even when the so-called return to classical forms took place, many details of the previous style were here retained, which was not the case in any other part of Europe.



762 Ponte del Paradiso, Venice. From Street.

CHAPTER V.

BYZANTINE-ROMANESQUE STYLE OF MEDIÆVAL ITALY.

CONTENTS.

Introductory Classification of Styles.

It would be easier to define the limits and character of the remaining styles of Italian mediæval architecture by a negative than a positive title. To call them the "non-Gothic" styles would describe them correctly, but would hardly suffice to convey a distinct idea of their peculiarities. Romanesque, or even Italian Romanesque, would not be sufficient; first, because that term applies only correctly to those transitional forms which were derived directly from the Roman styles as they became impure and degraded, and has already been applied to them in a previous chapter; and, secondly, because there is an important foreign element in the styles in question of which that name takes no cognizance. That element is the Byzantine, derived partly from the continued relations which such cities as Venice or Pisa maintained during the middle ages with the Levant, and partly from the intercourse which the inhabitants of Magna Grecia kept up across the Adriatic with the people on its eastern shore. To such a mixture of styles the term "Byzantine Romanesque" is perfectly appropriate: but there is still in Italy another form of art which cannot be included in such a denomination. The typical example of this style is the church of St. Mark at Venice.

St. Mark's is generally assumed to be purely Byzantine; but there is no church in the East exactly like it, though many possess features in common; and there are in Apulia churches, such as Molfetta and St. Angelo, which look much more like Levantine designs than anything to be found in other parts of Europe, except perhaps such buildings as St. Front, Perigeux, and one or two exceptional buildings in the South of France. To this style, as practised in Italy, it may be expedient to give the name "Italian Byzantine."

There still remains the difficulty of knowing under which of these two branches some of the buildings of southern Italy should be classed. The cathedrals of Bari, Bitonto, Trani, and Caserta Vecchia, may as fairly be said to belong to one as to the other style. In a very detailed description of Italian styles it might be expedient to attempt a further

subdivision, and to follow up the two divisions just marked out by two others, the one to be designated "Romanesque Gothic," to include such churches as the two at Toscanella; and the other "Byzantine Gothic," to include those churches in the south in the decoration of which rose-windows and Gothic details form a leading characteristic. For the present, however, it will probably suffice to describe the various non-Gothic styles of the southern half of Italy in local sections, without attempting any very minute classification of their variations. As the Italians had no great national style of their own, and both in the north and south were principally working under foreign influences, it is in vain to look for any thread that will conduct the student straight through the labyrinth of their styles. Italian unity is the aspiration of the present century: during the middle ages it did not exist either in politics or art.

CHAPTER VI.

BYZANTINE ROMANESQUE.

CONTENTS.

Buildings in Naples, Amalfi, &c. — San Nicolo, Bari — Cathedrals of Bitonto, Matera, and Trani — Churches at Brindisi — General Remarks.

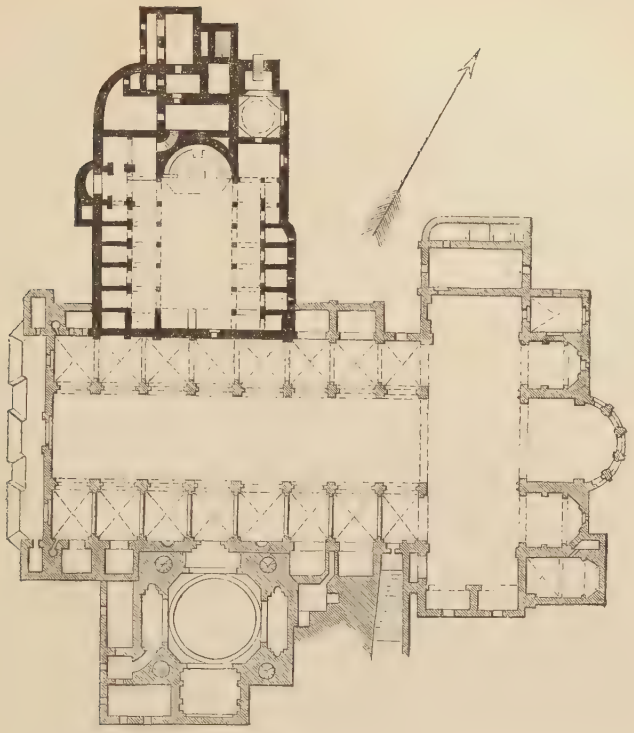
CHRONOLOGY.

The Normans enter Italy	A.D. 1018	William II., surnamed the Good	A.D. 1166
—— conquer Apulia from the Greeks	1043	Tancred	1189
—— attack the Saracens in Sicily	1061	Frederic Hohenstaufen of Germany	1197
Conquest of Sicily completed by Roger de Hauteville	1090	Conrad	1250
Roger II.	1101	Conradin	1254
William I., surnamed the Wicked	1153	Charles I., first Angiovine King of Naples	1266
		René, last Angiovine King of Naples	1435

Although Naples is in the very centre of its province, where we naturally first look for examples of the style, there are few cities in Italy which contain so little to interest the architect or the antiquary. Still she does possess one group of churches, which, by their juxtaposition at least, serve to illustrate the progress of the style during the middle ages. The earliest of these, Sta. Restituta—shaded dark in the plan (woodcut No. 763)—may be as old as the 4th or 5th century, and retains its original plan and arrangement, though much disfigured in details. The baptistery, a little behind the apse on its left, is certainly of the date indicated, and retains its mosaics, which seem to be of the same age.

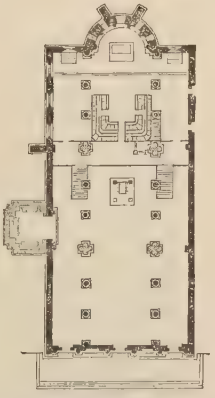
In the year 1299 Charles II. of Anjou commenced the new cathedral at right angles with the old, his French prejudices being apparently shocked at the incorrect orientation of the older church. It is a spacious building, 300 ft. long, arranged, as Italian churches usually were at that age, with a wooden roof over the nave and intersecting vaults over the side-aisles. Opposite the entrance of the old cathedral is a domical chapel of Renaissance design, so that the group contains an illustration of each of the three ages of Italian art.

The church of San Miniato (woodcuts Nos. 764 and 765), on a hill overlooking Florence, is one of the earliest (1013) as well as one of the most perfect, of the Byzantine Romanesque style. Internally it is only 165 ft. in length by 70 in width, divided longitudinally into aisles, and



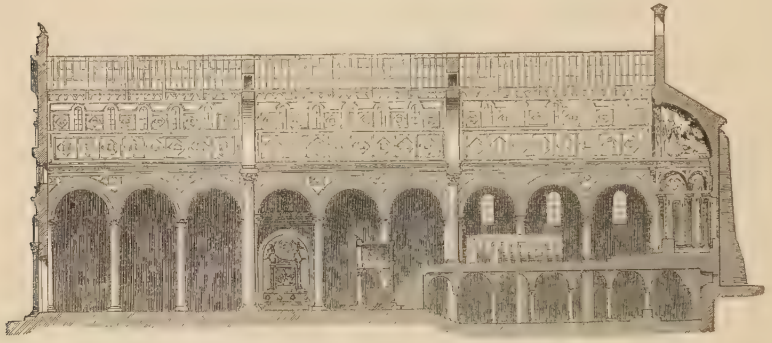
763. The Old and New Cathedrals at Naples. From Schultz. Scale 100 ft. to 1 in.

transversely into three nearly square compartments by clustered piers supporting two great arches which run up to the roof. The whole of the inner compartment is occupied by a crypt or under-church open to the nave, above which is the choir and altar-niche, approached by flights of steps in the aisles. The entire arrangement, together with the division of the nave into three compartments, is most satisfactory, and the proportions of the whole are very appropriate. The pillars themselves are so nearly classical in design that they were probably taken from some ancient building, and the architraves and string-courses are all well designed and fitted to the places they occupy. The principal ornament of the interior is an inlaid pattern of simple design, sufficient to relieve the monotony of the interior, but without producing any confusion. The exterior depends principally, like the interior, for its effect on coloured panelling, but has a range of blind arches running round the



764. Plan of San Miniato, Florence. From Gailhabaud's 'Monumens Anciens et Modernes.' Scale 100 ft. to 1 in.

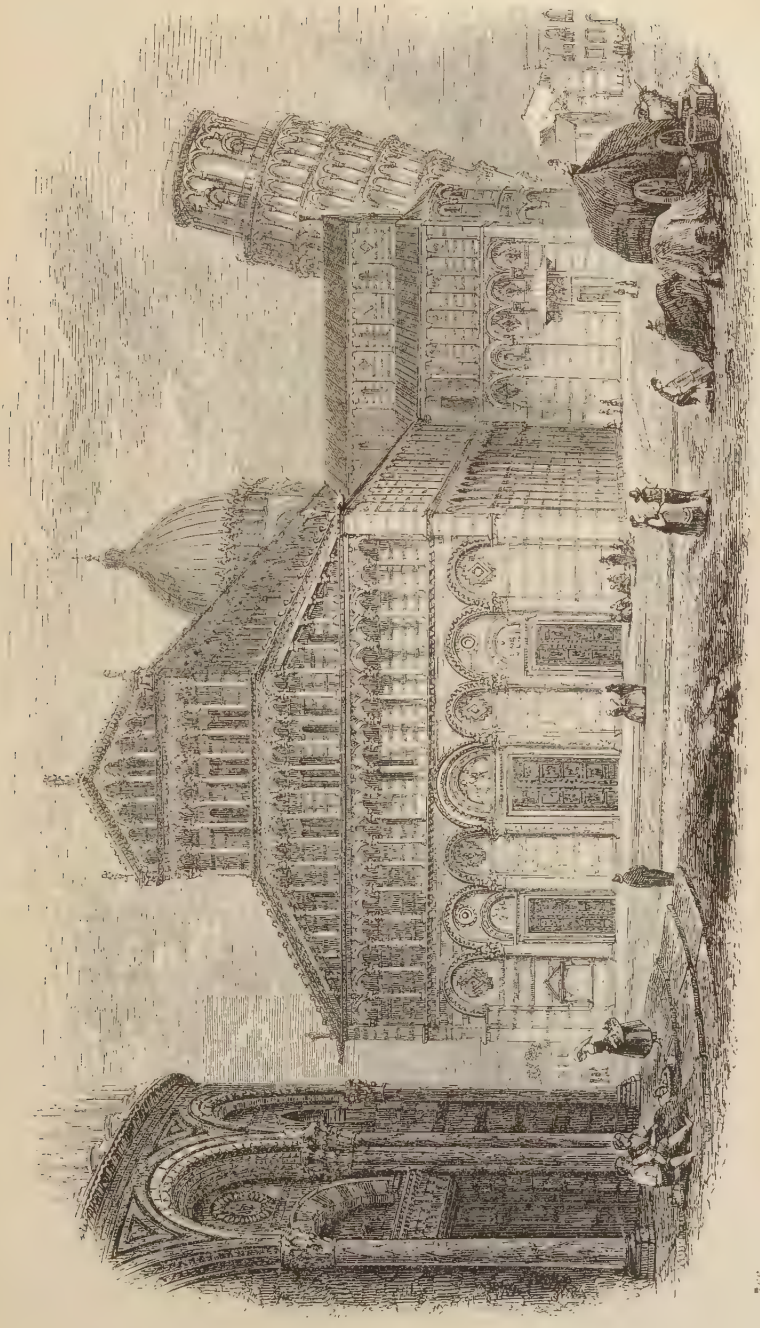
sides and across the front. The façade, however, is very badly designed; either it was one of the earliest examples, and the architects had not learned how to combine the sloping roofs of the aisles with the upper part of the façades, or it has been altered in more modern times; but for this slight defect it would be difficult to find a church in Italy containing more of classic elegance, with perfect appropriateness for the purposes of Christian worship.



765 Section of San Miniato, near Florence. From Gailhabaud. Scale 50 ft. to 1 in.

There must have been several, probably many, buildings in the same style erected in Tuscany during the first half of the 11th century. Otherwise it is almost impossible to understand how so complete a design as that of Pisa Cathedral could have been executed. It was commenced apparently in 1063, and completed in 1092. Internally it is not unlike the Ravenna churches in design (vol. i. p. 374, &c.), except that it has a splendid triforium gallery over the pier arches, and in plan a strongly marked projecting transept. Its great merit, however, is the exterior. The side-aisles are adorned with a range of blind arches running all round, adorned with party-coloured marble, inlaid either in courses or in patterns. Above this is a gallery, representing the triforium, carved all round, and in the façades formed into an open gallery; a second open gallery represents the sloping roof of the aisles, a third the clerestory, a fourth the slopes of the great roof. The difficulty here, as in almost all Italian designs, is caused by the sloping roofs; but, with this exception, the whole makes up a rich and varied composition without any glaring false construction, and expresses with sufficient clearness the arrangements of the interior. The dome is of later design, and, being oval in plan, cannot be said to be pleasing in outline.

The Italians were evidently delighted with their new style. It was repeated with very little variation at Lucca, in the church of San Michele (1188), only that the arcades stood free on the sides as well as on the front. The façade of S. Martino, in the same city, is in the same style; so is that of the Cathedral at Pistoja, and so

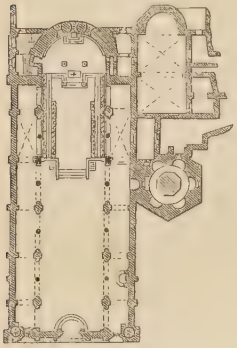


View of the Cathedral at Pisa. From Gaupuy's 'Moyen Age Monumental.'

Tet.

is Sta. Maria at Arezzo. The arrangement was probably suggested by the porticos of Pagan temples, and were it not for the awkwardness caused by the sloping line of the roofs, it might be characterized as one of the most successful inventions of the age.

In some instances, as in the façade of the Cathedral at Zara in Dalmatia (woodcuts Nos. 767, 768), built by Enrico Dandolo (1192–1204), the difficulties of the design of the façade are to a great extent conquered by reducing the arcades to mere decorative panelling, and more than this by separating the design of the centre from that of the aisles by a bold square pilaster. This is exactly the feature we miss at Pisa and Lucca, where the want of it imparts a considerable degree of weakness to the whole design.



767. Plan of Zara Cathedral. Scale 50 ft. to 1 in.

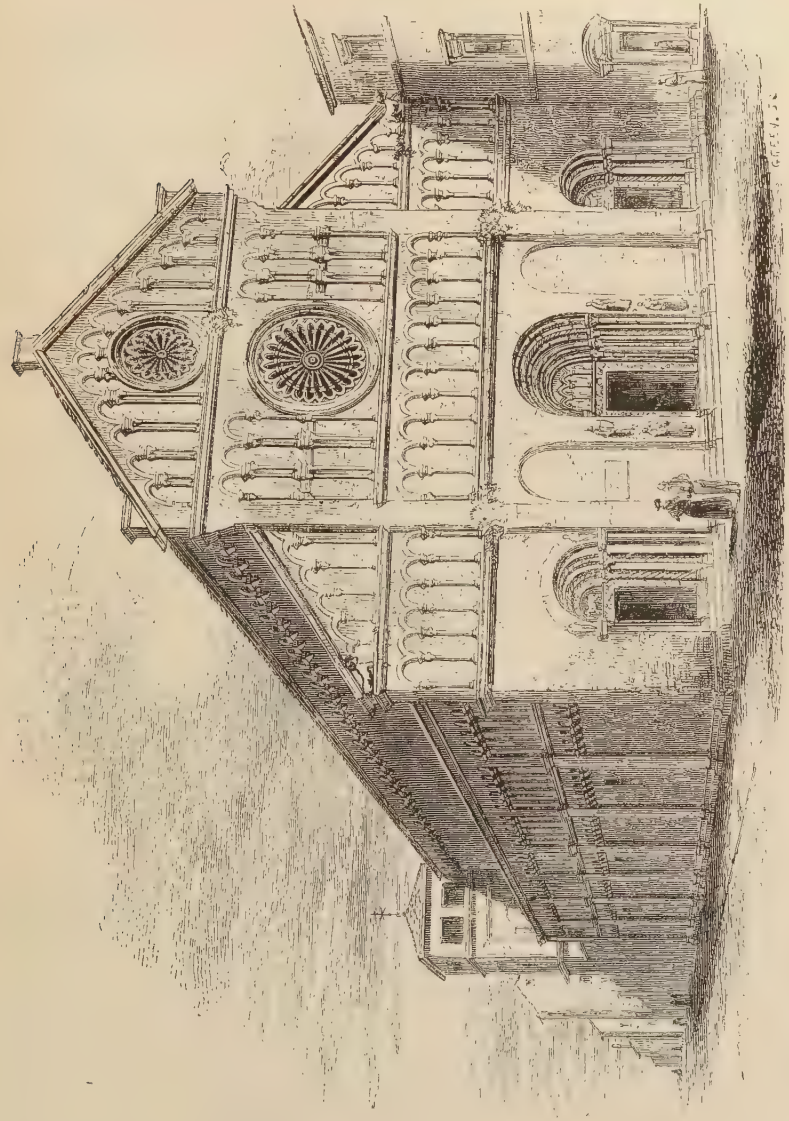
Its plan is that usually adopted in churches of this class; but it possesses a lady chapel and baptistery, placed laterally in a somewhat unusual manner. Its dimensions are small, being only 170 ft. by 65 externally.

The east end of this church, its doorways and windows, show, as might be expected from its locality, a greater tendency towards Gothic art than can be found on the western shores of the Peninsula, but in internal arrangements it belongs wholly to the Italian style.

Further south on the mainland of Italy, at Troja, we find a singularly elegant cathedral church (1093-1115?) in the same style (woodcut No. 769). Its flanks and apse are perhaps even more elegant than anything in the neighbourhood of Pisa. So is the lower part of its façade, which is adorned with a richness and elegance of foliage characteristic of the province where it is found; and the cornice that crowns the lower storey is perhaps unmatched by any similar example to be found in Italy, either for beauty of sculptural decoration or for appropriateness of profile. The upper part of the façade differs, however, considerably from that of the examples just quoted. A great rose-window, of elegant but ill-understood tracery, takes the place of the arcades, and, with the sculptured arch over it, completes all that remains of the original design. The plain pieces of walling that support the central window are parts of a modern repair.

As a general rule, all the churches in the South of Italy are small. This one at Troja is arranged in plan like that at Pisa, with bold projecting transepts, but its length is only 167 feet, and the width of its nave 50, while in the northern cathedral these dimensions are nearly double, 310 feet by 106, and the area four times as great. This is true of all, however elegant they may be—they are parish churches in dimensions as compared with their northern rivals.

Many also, as the cathedral at Bari (woodcut No. 770), have their apses internal, which detracts very much from the meaning of the design, and does away with the apsidal terminations, which are



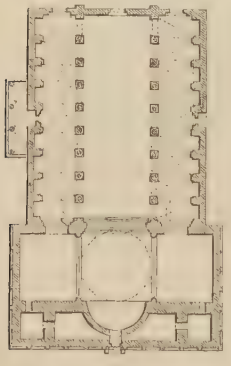
View of Zara Cathedral. From Sir Gardner Wilkinson's 'Dalmatia and Montenegro.'

768.

perhaps the most beautiful features in the external design of Italian churches; while they lack the great traceried windows which go so far to replace the absence of the apse in English design. The annexed elevation of the east end at Bari (woodcut No. 771) gives a fair idea

769. Façade of Cathedral at Troja. From Schultz.[1] No scale.

of the general arrangement of that part in Apulia. It is novel, and the two tall towers with a central dome, combine with elegant details to make up a whole which it is impossible not to admire, though it will not bear comparison with the more artistic arrangements of Northern architects.



770. Cathedral at Bari. Scale 100 ft. to 1 in.

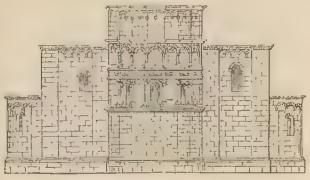
Where the apse is allowed to be seen externally, it is sometimes, as at S. Pellino (woodcut No. 772), an object of great beauty and originality, but such examples are rare in the province, and the designs suffer in proportion.

In the richer churches, as at Pisa, a blind arcade is carried round the flanks, sometimes with an open gallery under the eaves, as in German churches, but this was far from being

[1] Schultz, 'Denkmäler der Kunst des Mittelalters in Unter-Italien.' Folio, 1860.

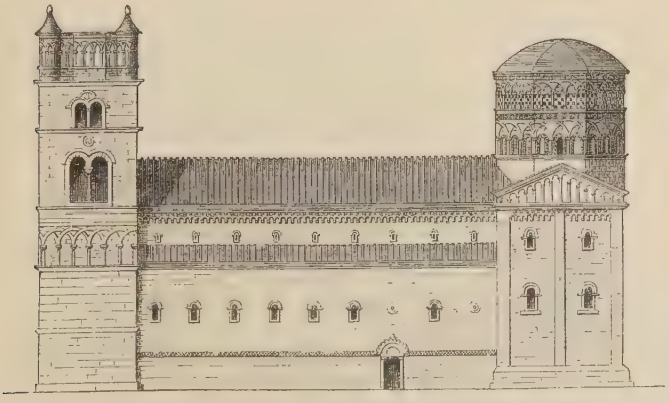
universally the case: on the contrary, it would be difficult, as a typical example of the style, to select one more characteristic than the flank of the church of Caserta Vecchia (1100–1153, woodcut No. 773). The windows are small but numerous, and mark the number of bays in the interior. The transept is slightly projected, and ornamented with an arcade at the top, and above this rises a dome such as is found only in Calabria or Sicily. The tower was added afterwards, and, though unsymmetrical, assists in relieving a design which would otherwise run the risk of being monotonous.

771. East End of Cathedral at Bari. From Schultz. Scale 50 feet to 1 in.



772. Apse of San Pellino. From Schultz. Scale 50 feet to 1 in.

It was, however, on their entrance façades that the architects of Southern Italy lavished their utmost care. The central doorways are usually covered with rich hoods, supported



773. Church at Caserta Vecchia. From Schultz Scale 50 feet to 1 in.

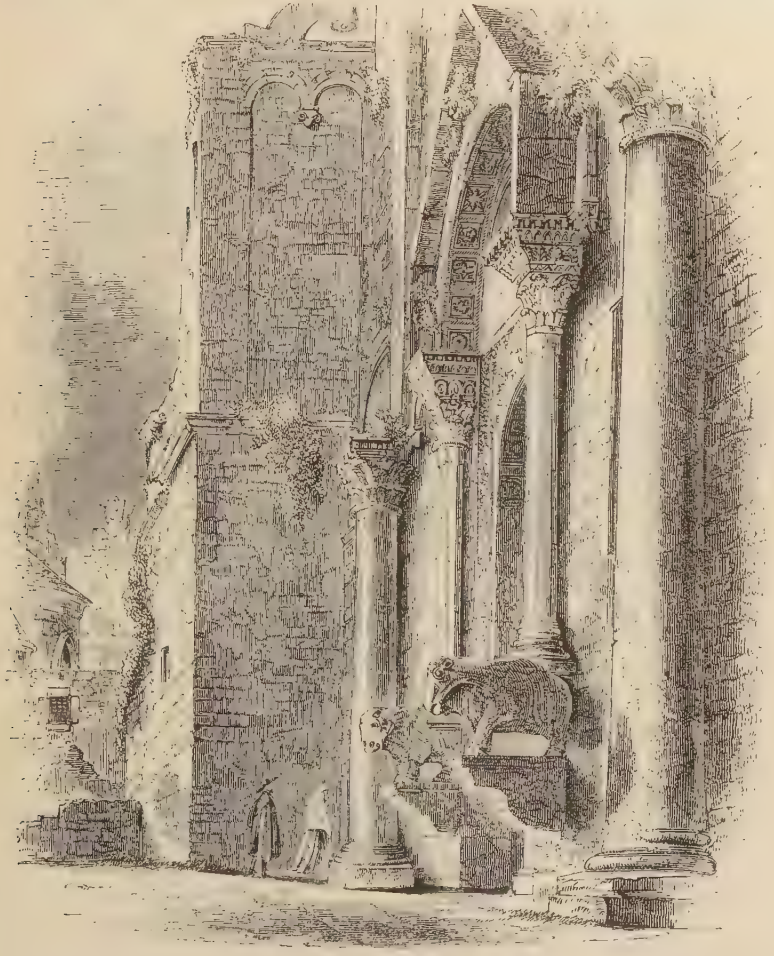
by pillars resting on monsters somewhat like those found in the north of Italy. Above this is either a gallery or one or two windows, and the whole generally terminates in a circular rose-window filled with tracery. As exemplified in the front of Bittonto Cathedral (woodcut No. 774), such a composition is not deficient in richness, though hardly pleasing as an architectural composition.

774. West Front of Bittonto Cathedral. From a Sketch by A. J. R. Gawen, Esq.

The same arrangement, on about the same scale, occurs at Bari Altamura, and Ruvo; and on a somewhat smaller scale in the churches of Galatina, Brindisi, and Barletta. The great and peculiar beauty of the cathedral at Bittonto is its south front, one angle of which is shown in the woodcut; but which becomes richer towards the east, where it is adorned with a portal of great magnificence and beauty. The richness

of its open gallery (under what was the roof of the side-aisles) is unsurpassed in Apulia, and probably by anything of the same kind in Italy.

The façade of San Nicolo at Bari (1197) is something like the last-mentioned, except that handsome Corinthian columns have been borrowed from some older building, and add to the richness of the design, though they hardly can be said to belong to the composition.

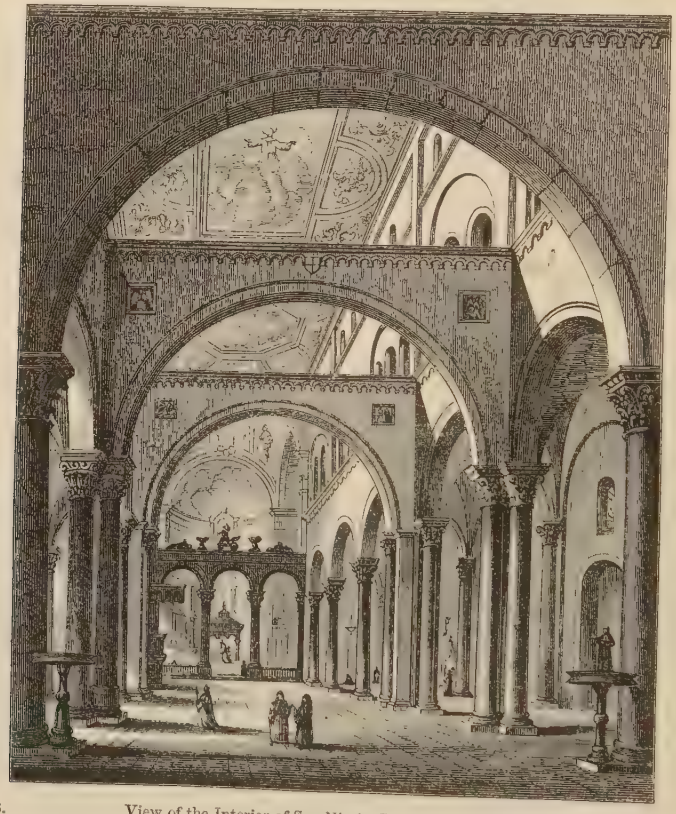


775. West Front of the Church of San Nicolo in Bari. From a Sketch by A. J. R. Gawen, Esq.

Internally this church seems to have displayed some such arrangement as that of San Miniato (woodcut No. 764). Instead, however, of improving upon it, as might be expected from the time that had elapsed since the previous one was erected, the Southern architect hardly knew the meaning of what he was attempting. He grouped together the three pillars next the entrance, and threw arches across the nave

from them, but these arches neither support the roof nor aid the construction in any other way. They do add to the perspective effect of the interior, but it is only by a theatrical contrivance very rare in the middle ages, and by no means to be admired when found.

Most of these Apulian churches possess crypts almost as important as that of San Miniato, some more so; and the numerous pillars in some of these give rise to effects of perspective only to be found elsewhere in such buildings as the Mosque at Cordova, or the cisterns at

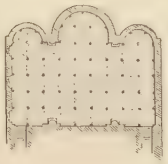


776. View of the Interior of San Nicolo, Bari. From Schultz.

Constantinople. As in the annexed example, from the Cathedral at Otranto, it is wonderful what space and what variety may be attained with small dimensions by the employment of numerous points of support. This was the secret of most of the best effects produced by the Northern architects; but the Italians never understood it, or practised it, except in crypts. Perhaps it may have been that they thought it necessary to sacrifice architectural effect to the exigences of public worship. Whether this were the cause or not, the result, as already

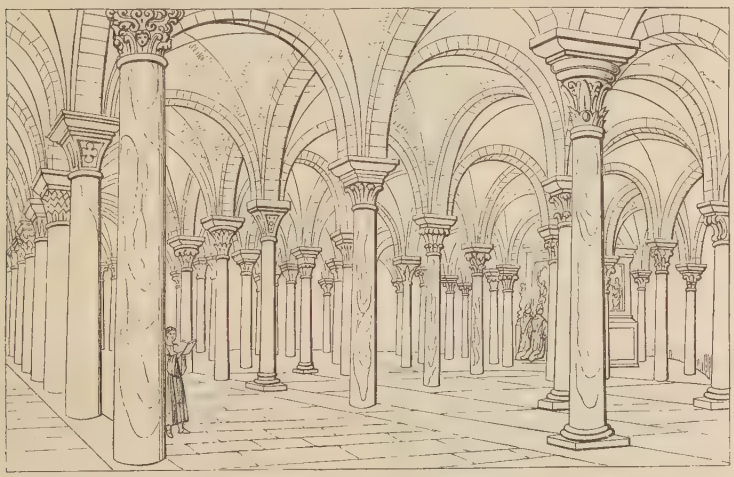
pointed out, was fatal to the architectural effect of many of their designs, especially in the Northern province.

In Southern Italy this is seldom the case, but the difference arose from the fact that the naves of the churches had never vaulted roofs, and were consequently separated from the aisles by single pillars instead of composite piers. This took away all temptation to display mechanical dexterity, and left the architect free to produce the best artistic effect he was able to design with the materials at his command.



777. Plan of Crypt at Otranto. Scale 100 ft. to 1 in.

No one who takes the pains to familiarize himself with the architecture of these Southern Italian churches, can well fail to be impressed with their beauty. That beauty will be found, however, to arise not so much from the dimensions or arrangement of their plans, or the form of their outline, as from the grace and elegance of their details. Every feature displays the feeling of an elegant and refined people, who demanded decoration as a necessity, though they were incapable of rising to any great architectural conception. They excelled as ornamentists, though at best only indifferent architects.



778. View in Crypt at Otranto. From Schultz.

It is impossible to render this evident in such a work as the present; but besides the examples already given, a window (woodcut No. 779) from the cathedral church at Matera (1270), will explain how unlike the style of decoration is to anything with which we are familiar in the North, and at the same time, how much picturesque effect may be produced by a repetition of similar details. The church itself has this peculiarity, that its west front is plain and unimportant.

and that all the decoration is lavished on the south side, which faces the piazza. There are two entrances on this face, that towards the east being, as usual, the richest. Above these is a range of richly-ornamented windows, one of which—a little out of the centre—is far more splendid than the rest (woodcut No. 779). From this it is said that letters and rescripts from the Greek patriarch at Constantinople used to be read, and it is perhaps as elaborate a specimen of the mode of decoration used in these churches as can be found in the province.

779. Window in the south side of the Cathedral Church in Matera. From a Sketch by Mr. Gawen.

The same exuberance of decoration continued to be employed down to the latest period of the art, and after Northern forms had been introduced by the Angiovine dynasty at Naples. The doorway from the church at Pappacoda (woodcut No. 780) is a type of many to be found in that city and elsewhere in the architectural province. True, it is overdone, to such an extent that much of the labour bestowed upon it must be considered as thrown away; but if a love of art induced people to labour so lovingly in it, it is hard to refuse them the admiration which their enthusiasm deserves.

Another class of ornamental detail in which this province is especially rich is that of bronze doors, of which some six or seven examples still remain. Of these perhaps the finest are those of the cathedral at Trani. They were made in 1160, and for beauty of design, and for

the exuberance and elegance of their ornaments, are unsurpassed by anything of the kind in Italy, or probably in the world. Another pair of doors of almost equal beauty, made in 1119, belongs to the cathedral at Troja (woodcut No. 769), and a third, which is still in a very perfect state, constructed at Constantinople, in the year 1076, for the church of Monte San Angelo; and is consequently contemporary with the doors of Sta. Sophia, Novogorod, and San Zenone, Verona, and so similar in design as to form an interesting series for comparison.

780. Doorway of Church of Pappacoda, Naples. From Schultz.

Other churches in the same style as those mentioned above are found at Canosa, Giovenazzo, Molo, Ostuni, Manduria, and other places in the province. Those of Brindisi, from which we should expect most, have been too much modernised to be of value as examples; but there is in the town a small circular church of great beauty, built apparently by the Knights Templars, and afterwards possessed by the Knights of St. John. It is now in ruins, but many of the frescoes which once adorned its walls still remain, as well as the marble pillars that supported its roof. Being at some distance from the harbour, the Knights of St. John built another small church near the port, which still remains nearly unaltered.

Circular Buildings.

One of the best known, as well as one of the largest examples of this class of buildings in Italy, is the baptistery at Pisa (seen partially on the left hand of woodcut No. 766). Internally it is, as nearly as may be, 100 ft. in diameter, and the walls are about 8 ft. 6 in. in thickness. The dome itself, however, is only 60 ft. in diameter, and is supported on four piers and eight pillars. These serve to separate the central space from the aisle which runs round it, and which is two storeys in height, but singularly ill-proportioned and clumsy in detail. The worst part of the design, however, is the dome, if dome it can be called. Internally it is conical in form, and thrust through an external hemispherical dome in a manner more clumsy and unpleasing than any other example of its class. Externally, these defects are to some extent atoned for by considerable richness and beauty of detail. It had originally only one range of blind arcades, with three-quarter columns, surmounted by an open arcade; an arrangement exactly similar to that of the two lower storeys of the cathedral and the leaning tower (woodcut No. 783). A considerable amount of pointed Gothic decoration was afterwards added, which, though somewhat incongruous, is elegant in itself, and hides to some extent the original defects of the design. But the outline of the building and its whole arrangements are so radically bad, that no amount of ornament can ever redeem them.

781. Plan of San Donato, Zara. Scale 100 ft. to 1 in.

782. Section of San Donato, Zara. Scale 50 ft. to 1 in.

Taken altogether, the Pisan Baptistery is so very peculiar, that it would be interesting if its design could be traced back to some undoubted original. That this is possible will hardly be doubted by any one at all familiar with the subject; meanwhile, the building most like it that has been illustrated is the little church of San Donato, at Zara. The church was apparently erected in the 9th century, by the saint whose name it now bears, and resembles the Pisan example in every essential particular—internally, at least, for it is so ruined and built up, that it is impossible to say what its external appearance may have been. Both from its resemblance to the Pisan baptistery

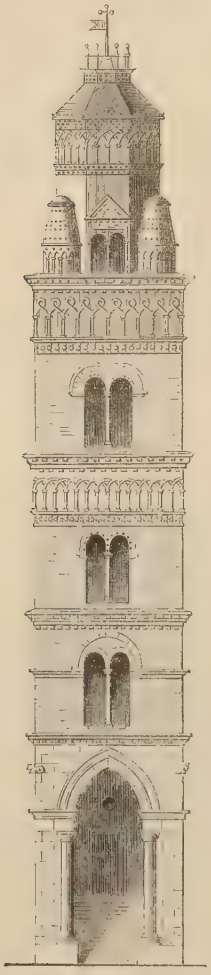
and its own merits, it is an interesting addition to our knowledge of those circular churches, which were such favourites with all the Christian architects in the Carlovingian period. The resemblance in this instance is the more remarkable, because the façade of the cathedral at Zara (woodcut No. 768) is in the Pisan style, only slightly modified by local peculiarities. From what we already know, it seems undoubted that there was a close connexion—architecturally, at least—between Pisa and Zara. If this were fully investigated, it would probably throw considerable light on the origin of the Pisan style, which has hitherto seemed so exceptional in Italy, and also explain how the Byzantine element came to be so strongly developed in what at first sight appears to be a Romanesque style of art.

Towers.

The typical example of a tower in the Italian style is the celebrated leaning tower at Pisa, partly seen in woodcut No. 766. It is indeed, so far as we at present know, the only one which carries out that arrangement of numerous tiers of superimposed arcades which is so characteristic of the style. The lower storey is well designed as a solid basement for the superincumbent mass; its walls are 13 ft. in thickness, and it is adorned with 15 three-quarter columns: its height being 35 ft. The six storeys above this average 20 ft. in height, and are each adorned with an open arcade. The whole is crowned by a smaller circular tower, 27 ft. in height, in which the bells are hung. The entire height is thus 183 ft.; the mean diameter of the main portion, 52. There is no doubt that it was originally intended to stand perpendicular, though the contrary has been asserted; but before the commencement of the fifth storey the foundations had given way, and the attempts to readjust the work are plainly traceable in the upper storeys, though without success. It

783. Leaning Tower at Pisa. From Taylor and Cresy. Scale 50 ft. to 1 in.

leans 11 ft. 2 in. out of the perpendicular,[1] which though not sufficient to endanger its stability, is enough to render it very unsightly. Even without this defect, however, its design can hardly be commended; an arrangement of six equal arcades, with horizontal entablatures, is not an expedient mode of adorning a building, where elevation is the element of success. The introduction of strongly-marked vertical lines, or some variation in the design of the arcades, would have greatly improved the design: and so the Italians seem to have thought, for it was never repeated, and the Pisan tower remains a solitary example of its class.



784. Tower of Gaeta. From Schultz. No scale.

Nothing at all resembling it occurs in the southern parts of the province, though it must be admitted that they contain very few really important towers of any sort.

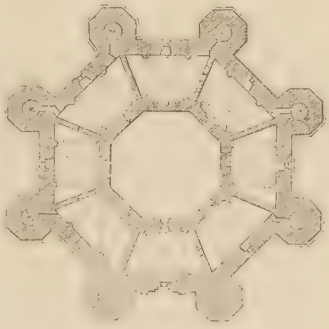
Perhaps the earthquakes to which a great portion of the country is liable may have deterred the architects from indulging in structures of great altitude; but it must be added that the idea of belfry or tower did not enter into their municipal arrangements, and their towns are not consequently illustrated by such towers as those of Venice, Cremona, or Verona in the north. Of those which do exist that of Gæta is perhaps as picturesque as any. It was erected 1276–1290, and is both characteristic of the style and elegant in outline. As will be observed, the lower storey has pointed arches, while those above are all round; an arrangement which, though to our eyes it may appear archæologically wrong, is certainly constructively right, and the effect is very pleasing, from the height and dignity given to the entrance.

The two towers of the cathedral at Bari (woodcut No. 771) are not so happy in design as this. They are too tall for their other dimensions, and want accentuation throughout; while the change from the lower to the upper storey is abrupt and ill-contrived. The tower at Caserta Vecchia (woodcut No. 773) is low and squat in its proportions, and unfortunately too typical of the towers in this land of earthquakes.

[1] The cornice projects 1 ft. 10 inches, and consequently overhangs the base by 13 ft.

Civil Architecture.

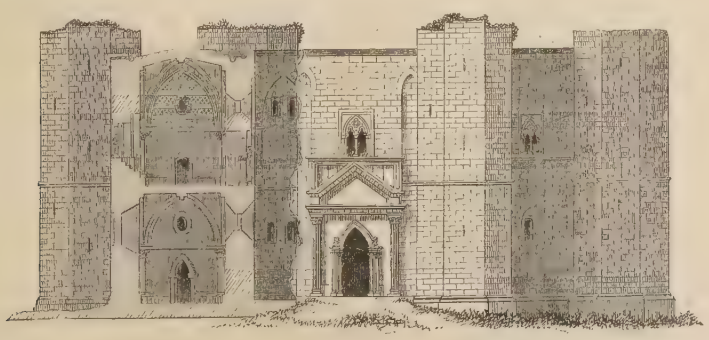
As a rule, it may be asserted that the southern province of Italy is singularly deficient in examples of civil or domestic architecture. Great monastic establishments existed there during the middle ages which must have possessed buildings befitting their magnificence; but these have either perished and been rebuilt, or have been so restored that their original forms can hardly be recognised. There are, indeed, cloisters at Amalfi and Sorrento; much more remarkable, however, for the beauty of their situation than for their architecture, which is extremely rude and clumsy. There are no chapter-houses; no halls or conventual buildings of any sort. In this respect, the province forms a remarkable contrast with Spain in the same age; though it must be confessed that the north of Italy is also very deficient in conventual buildings of the middle ages, the most magnificent and beautiful belonging more to the Renaissance than to the Mediæval period.



785. Plan of Castel del Monte. From Schultz Scale 100 ft. to 1 in.

At Ravello there is the Casa Ruffolo, a picturesque palace of the 13th century, still nearly entire: a strange mixture of Gothic and Saracenic taste, but so exceptional, that it would not be fair to quote it as a type of any style. It seems to owe its peculiarities more to the taste of some individual patron or architect rather than to any national taste or form of design.

There are, however, several Hohenstaufen Castles of tolerable preservation, more or less typical of the domestic arts of the day in which they were erected. One of the best preserved of these is that of Castel del Monte, erected by Frederick II., 1240–44. It is an octagon in plan, with octagonal turrets at



786. Part Section, part Elevation, of Castel del Monte. From Schultz. Scale 50 ft. to 1 in.

each angle. It measures 167 ft. across its extreme breadth, and surrounds a courtyard 57 ft. in diameter. Both storeys are vaulted, and all the details throughout are good and pleasing. The whole is an admixture of Italian taste, superimposed on a German design; but it will be observed how little removed the architectural details of the entrance are, even at that early age, from the style of the Renaissance. This is, indeed, the great characteristic of the architectural objects in Southern Italy. Though they adopted Christian forms, they never abandoned the classical feeling in details; and it is this which mainly renders them worthy of study. Whether considered in regard to dimensions, outline, or constructive peculiarities, their churches will not bear a moment's comparison with those of the north; but in elegance of detail they often surpass purely Gothic buildings, to such a degree as to become to some extent as worthy of study as their more ambitious rivals.

CHAPTER VII.

ITALIAN BYZANTINE.

CONTENTS.

Cloister of St. Giovanni Laterano — St. Mark's, Venice — St. Antonio, Padua — Church at Molfetta — Baptistery, Mont St. Angelo — Tomb, Canosa.

As before mentioned, there is a great hiatus in our history of the architecture of Italy in the dark ages. During the four centuries which elapsed from 600 to 1000, the examples are very few, and their character generally insignificant. It is true that during this period Rome went on building large churches; but it was in her own Romanesque manner, fitting together Roman pillars with classical details of more or less purity, but hardly, except in cloisters and furniture, deserving the name of a style.

Perhaps the most original, as it certainly is one of the most beautiful things the Romans did, is the cloister of St. Giovanni Laterano.

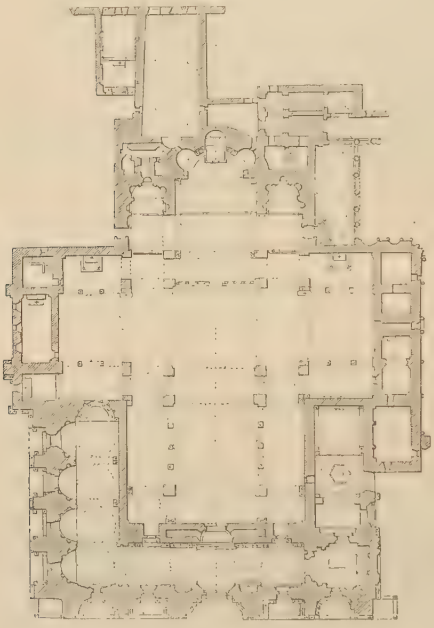
787. Church of St. Giovanni Laterano. From Rosengarten.

There the little arcades, supported by twisted columns, and adorned with mosaics, are as graceful and pleasing as anything of that class found elsewhere; and as they are encased in a framework of sufficient strength to take off all appearance of mechanical weakness, their unconstructive forms are not unpleasing. The entablature, which is the ruling feature in the design, retains the classical arrangement in almost every detail, and in such purity as could only be found in Rome in the 12th century, when this cloister appears to have been erected; but the style never extended beyond the limits of that city, and thus has little bearing on the thread of our narrative.

When in the 11th century all the nations of Europe were seized with a desire to build large and permanent churches, we find the Italian architects producing at once a complete round-arched inter-

secting vaulted Gothic style, perfect and complete in all its parts, and bearing a striking resemblance to what we find on the banks of the Rhine; but when we ask by what steps it reached this completeness, and where are the examples of its progress, we are at fault.

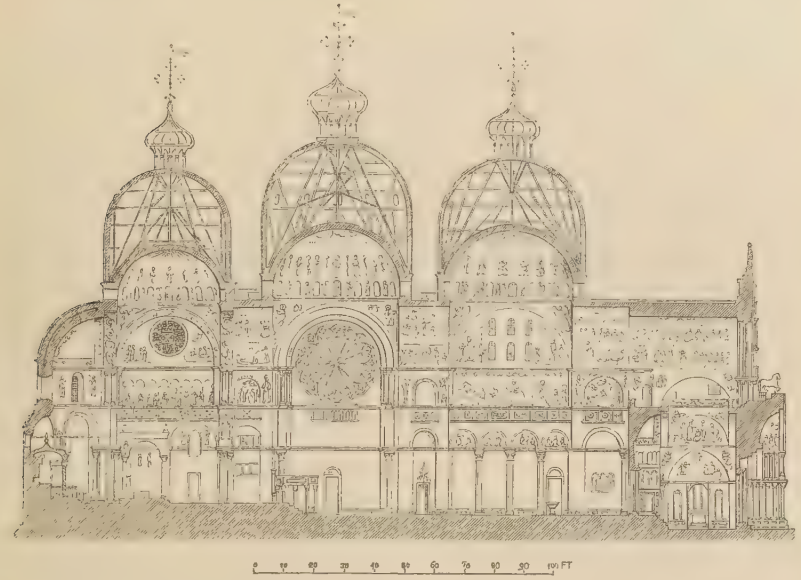
In like manner in the eleventh century we find at Venice, in Apulia, in Languedoc, and Anjou, a domical style of roof employed without hesitation, as if it had long been indigenous. Yet we are equally at a loss to explain how this, too, arose. Hitherto the usual solution has been to assert that it was imported from the East; but this hardly seems sufficient to account for the observed facts, and we must bear in mind that both the Byzantine and Gothic styles came out of Rome; and there seems no good reason why a domical style should not have been perfected on our side of the Adriatic as well as a vaulted style, even though that form of Roman art never penetrated to the East; and such, indeed, appears to have been the case. The great argument against this view is the exceptionally Oriental character of St. Mark's, at Venice. It must not be forgotten, however, that the five great domes which give such an Asiatic look to the exterior are not parts of the original design, but were added—in their present form, at least—late in the middle ages. The great quintuple portico, it is true, is exceptional in Europe, and may have been suggested by something seen in the East. The arrangement of this, however, seems to have been adopted in consequence of the wealth of marble columns, which the argosies of Venice brought from Alexandria and the ruined cities of the East, rather than by the exigences of design. But even then its numerous shafts and receding planes of decoration are much more like the forms with which we are familiar in Norman portals than anything yet discovered in the Levant. The plan, too, when closely examined, is not like those found in the East. There are many five-domed churches, it is true, on the other side of the Adriatic; but there the four subordinate domes are arranged diagonally on corners around the central dome. At St.



788. Plan of St. Mark's, Venice.

Mark's they are in front, behind, and beside it, making a great transeptal arrangement, which, to say the least of it, is very unusual in the East, if indeed it is known at all.

Many are inclined to ascribe to it an Oriental origin from the profusion of gold mosaics which cover every part of its interior; but this was the case with the apses and semi-domes of all the Romanesque churches, and generally of the walls too, when the light was favourable. They could not so adorn their roofs, because they were of wood; and the Gothic architects were equally debarred, by the twisted and cut-up surfaces of their vaults, from the employment there of this class of decoration.



789. Section of St. Mark's, Venice. From 'Chiese Principale di Europa.'

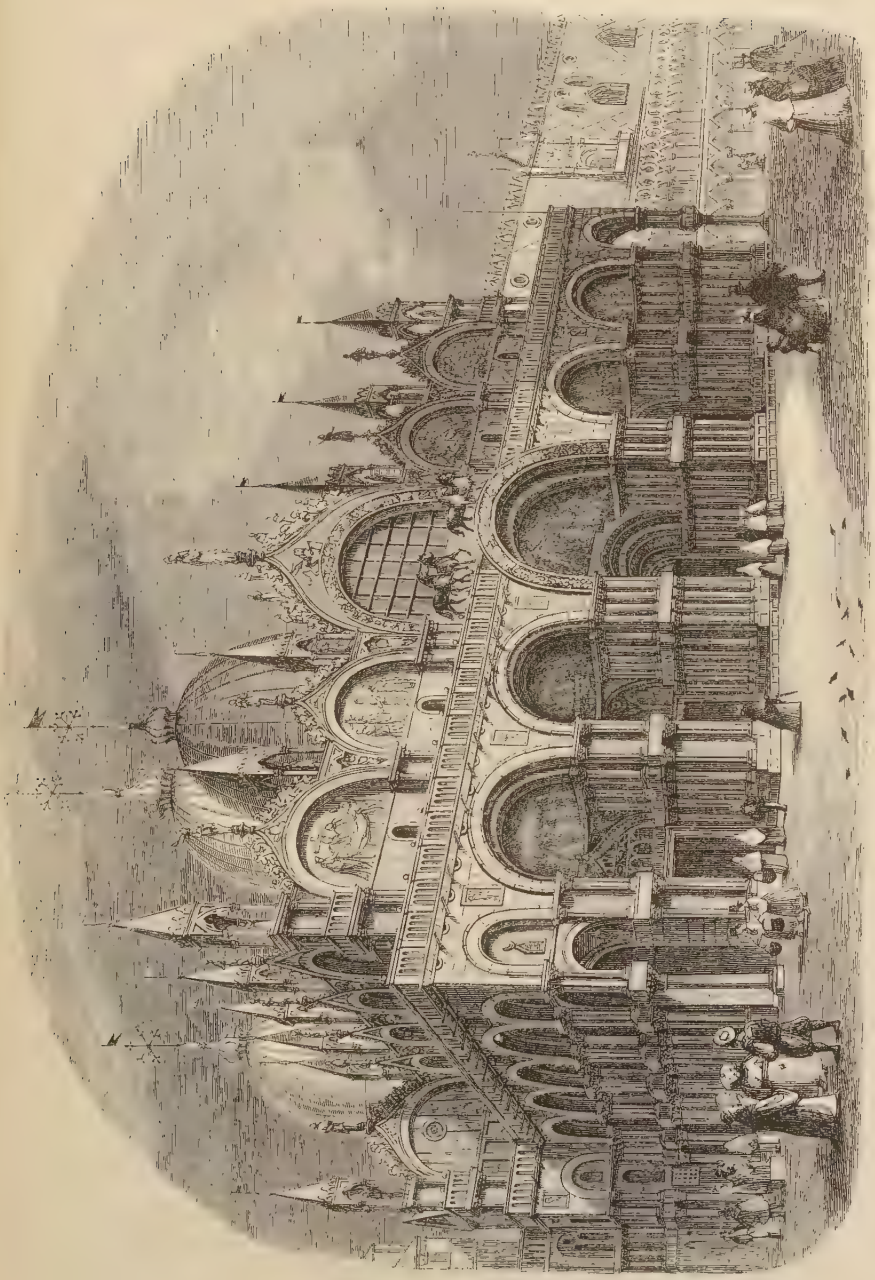
There can be no doubt that, owing to their continual intercourse with the East, the Venetians received many hints from a country that had at that time more leisure to work out this style. The probability is that if we had a few more examples of what was doing in Italy, from the decline of Ravenna to the rise of Venice, we might more certainly associate St. Mark's with the indigenous French and Italian styles of that age than has hitherto been thought probable.

The foundations of the present church were laid in 977, in replacement of the original building burnt down in a tumult in the previous year, and it was completed in all essentials within a century from that time (1071); but the mosaics and internal decorations occupied 10, or some say 20, years more, so that the church was not dedicated till 1085 or 1094.

The part first erected was apparently the internal church, covered by the five great domes, which are arranged in the form of a Latin, not of a Greek cross. The central one, and that in front of it, are 42 ft. in diameter internally; the other three 33 ft. The external aisle or portico which envelopes three sides of the nave, was added afterwards, though probably in immediate continuation of the central building. It is this which gives to the plan of the church a somewhat square or Byzantine form. But the extreme richness of decoration displayed on the exterior of the porch is very unlike anything we know of in the Eastern Empire. Few things, indeed, are more remarkable than the external plainness of the great Byzantine edifices of Justinian's age, and for several centuries afterwards. So far as we can at present judge, it appears that the Eastern architects borrowed the fashion of ornamenting their exteriors from their Western brethren: and it would probably be more correct to ascribe the subsequent decoration of Byzantine edifices to the example of St. Mark's, than to assume that its design was borrowed from the East.

Internally the church measures 205 ft. east and west, and 164 ft. across the transepts. Externally these dimensions are increased to 260 ft. by 215 ft., and the whole area to about 46,000 ft.; so that, though of respectable dimensions, it is by no means a large church. Nor is the arrangement of the plan, or the disposition of the parts, at all equal to those of northern architects, if looked at from a purely architectural point of view. The screens of pillars which divide the nave from the aisles are unmeaning; the projection of the transepts is too great for the length, and the general arrangement wanting in unity. It is impossible, however, to find fault with plain surfaces, when they are covered with such exquisite gold mosaics as those of St. Mark's; or with the want of accentuation in the lines of the roof, when every part is more richly adorned in this manner than any other church of the Western world. Then, too, the rood-screen, the pulpit, the pala d'oro, the whole furniture of the choir, are so rich, so venerable, and on the whole so beautiful, and seen in so exquisitely subdued a light, that it is impossible to deny that it is perhaps the most impressive interior in western Europe. St. Front, at Perigueux, with almost identical dimensions and design (woodcut No. 302), is cold, scattered, and unmeaning, because but a structural skeleton of St. Mark's, without its adornments. The interior of a 13th-century Gothic church is beautiful even when whitewashed; but these early attempts had not yet reached that balance between construction and ornament, which is necessary to real architectural effect.

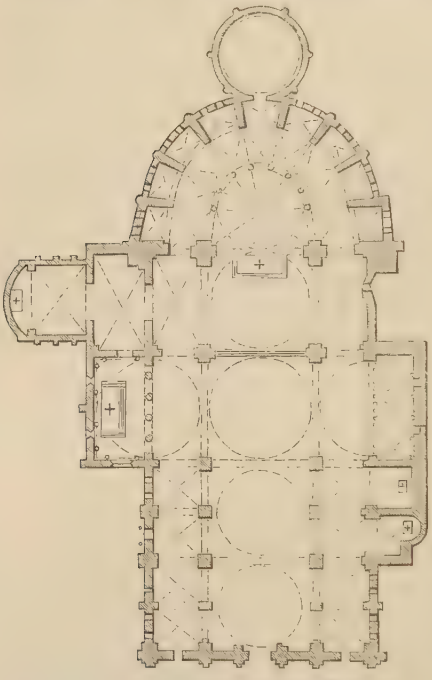
The same is true of the exterior; if stripped of its ornament and erected in plain stone it would hardly be tolerable, and the mixture of florid 14th-century foliage and bad Italian Gothic details with the older work would be all but unendurable. But marble, mosaic, scul-



View of St Mark's, Venice. From Rosengarten.

ture, and the all-hallowing touch of age, and association, disarm the critic, and force him to worship when his reason tells him he ought to blame.

Much as St. Mark's must have been admired in the days of its freshness, the Gothic feeling seems to have been so strong in Northern Italy in the 11th and 12th centuries as to prevent its being used as a model. The one prominent exception is San Antonio, Padua (1237–1307), which is evidently a copy of St. Mark's, but with so much Gothic design mixed up with it as to spoil both. Length was sought to be obtained by using seven domes instead of five, and running an aisle round the apse. The side-aisles were covered with intersecting vaults, and pointed arches were occasionally introduced when circular would have harmonized better with the general design.



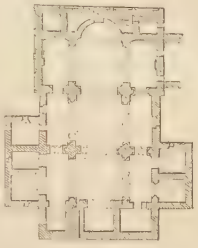
791. Plan of St. Antonio, Padua. From Wiebeking. Scale 100 ft. to 1 in.

Externally the enveloping porch was omitted—not even the Pisan modification of it introduced, though it might have been employed with the happiest effect. The consequence of all this jumble is, that San Antonio may perhaps lay claim to the bad pre-eminence of possessing the ugliest exterior of any church of its age in Europe. The inside is not so bad, though a roof of only five bays over a quasi-Gothic church 200 ft. in length distorts the proportion, and, with the ill-understood details of the whole, spoils what narrowly escaped being one of the most successful interiors of that part of Italy.

Southern Italy.

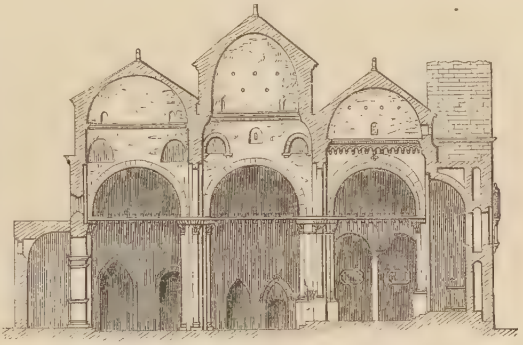
As already remarked, the architects of the southern half of the Italian peninsula were generally content to adopt the Romanesque plan of covering their naves with a wooden roof—for when an intersecting vault is found it is clearly a French or German interpolation—but they often employed one dome, generally over the altar, and

used it as an ornament both external and internal. The two illustrations already given of the domes at Bari (woodcut No. 771) and Caserta Vecchia (woodcut No. 773) shew the form these usually took in the province. They belong to a type not unusual in the East, but unknown to the Gothic architects of Europe.



792. Plan of Church at Molfetta. Scale 100 ft. to 1 in.

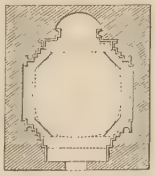
When called upon to roof their churches with stone, they almost invariably adopted the domical in preference to the vaulted form, as at Molfetta (1162) where they form a pleasing form of roof, not unlike that of Loches Cathedral (woodcut No. 324). The great defect of domes when thus employed is their height, which generally throws the whole of the building out of proportion, and unless light is introduced through openings in the drum, or in the dome itself, they are dark and gloomy. This is certainly the case at Molfetta, but otherwise the church seems well designed and of pleasing proportions. To be successful, domes should be low and flat internally; and any height required externally must be given by a false dome, as at St. Mark's, or as done by the Renaissance architects generally.



793. Section of Church at Molfetta. From Schultz. Scale 50 ft. to 1 in.

This was not so much felt when the building was square and covered by only one dome, like the baptistery or tomb below Mont St. Angelo, where effect of space on the floor was not aimed at so much as a combination of external dignity with limited dimensions in plan, and was attained by the arrangement adopted. As will be observed, the pointed arch, as in the tower at Gaeta (woodcut No. 784), is used in the basement, but above this round arches with balusters for pillars such as we should call Saxon, though their age here may be the 12th century.

794. Baptistery, Mont St. Angelo. Scale 50 ft. to 1 in.



795. Plan of Baptistery, Mont St. Angelo. Scale 50 ft. to 1 in.

Among the little bits of Orientalism that crop up here and there all

over the province one of the most pleasing is the little tomb of Bohemund at Canosa (1111). It is charming to find in Italy an Eastern Kubr with its dome, erected to contain the remains of a Christian King. Though elegant, however, the dome is not fitted to the square as it would have been in more experienced hands, and the whole design is somewhat badly put together. Its bronze doors are among its chiefest ornaments, and are elegant, though inferior to numerous examples of the same class in the churches of the province.

796. Tomb of Bohemund at Canosa. From Schultz.

Many other examples of Byzantine domical forms might be quoted as existing in Southern Italy. It is not, however, so much in the forms as in the details that the Eastern influence is felt, and that no less in the churches which retain the basilican form of Ravenna than in those which assume the domical form of Constantinople.

The buildings of the Southern Province cannot certainly compete with those of the Northern either in size or in daring mechanical construction, but in detail they are frequently more beautiful, while their forms are more national and less constrained. Their great interest, however, in the eyes of the student consists in their forming a link between the Eastern and Western worlds, and thus joining together two styles which we have hitherto been too much in the habit of considering as possessing no point of contact.

CHAPTER VIII.

SICILY.

CONTENTS.

Population of Sicily — The Saracens — Buildings at Palermo — Cathedral of Monreale — Cefalu — The Pointed Arch.

There are few chapters of architectural history—at least among the shorter ones—more interesting, in various ways, than that which treats of the introduction of the pointed-arched style into Sicily, and its peculiar development there. The whole history is so easily understood, the style itself so distinct from any other, and at the same time so intrinsically beautiful, that it is of all the divisions of the subject the one best suited for a monograph, and so it seems to have been considered by many—Hittorff and Zanth, the Duke of Serra di Falco, and our own Gally Knight having chosen it for special illustration, so that in fact there are few European styles of which we have more complete information. Many of the points of its history are nevertheless still subjects of controversy, not from any inherent obscurity in the subject, but because it has been attempted to apply to it the rules and theories derived from the history of Northern art.

The map of Sicily tells its whole history; its position and form reveal nearly all that is required to be known of the races that inhabited it, and of their fate. Situated in the centre of the Mediterranean Sea, of a nearly regular triangular form, and presenting one side to Greece, another to Africa, and a third to Italy, the length of these coasts, and their relative distance from the opposite shores, are nearly correct indexes of the influence each has had on the civilization of the island.

In a former chapter[1] it was shewn how strong was the influence of Dorian Greece in Sicily. Almost all the ancient architectural remains belong to that people. The Carthaginians, who succeeded the Greeks, left but slight traces of humanizing influence; and the rule of the Romans was that of conquerors, oppressive and destructive of the civilization of the people. After the Christian era, a very similar succession of influences took place. First and most powerful was the

[1] Part I. Bk. III. ch. 2.

Byzantine element, which forms the groundwork and main ingredient in all that follows. To this succeeded the Saracenic epoch: bright, brilliant, but evanescent. In the 11th century the Italian element resumed its sway under the banner of a few Norman adventurers, and in the guise of a Norman conquest sacerdotal Rome regained the inheritance of her imperial predecessor. In the Christian period, however, the elements were far from being so distinct as in those preceding it, for reasons easily understood. Every fresh race of masters found the island already occupied by a very numerous population of extremely various origin. The new-comers could do no more than add their own forms of art to those previously in use; the consequence being in every case a mixed style, containing elements derived from every portion of the inhabitants.

We have no means of knowing the exact form of the Byzantine churches of Sicily before the Arab invasion. All have either perished or are undescribed. The Saracenic remains, too, have all disappeared, the buildings generally supposed to be relics of their rule being now proved to have been erected by Moorish workmen for their Christian masters. With the Norman sway a style arose which goes far to supply all these deficiencies, being Greek in essence, Roman in form, and Saracenic in decoration; and these elements mixed in exactly those proportions which we should expect. Nowhere do we find the square domed plans of the Greek Church, nor any form suited to the Greek ritual. These have given place to the Roman basilica, and to an arrangement adapted to the rites of the Romish Church; but all the work was performed by Greek artists, and the Roman outline was filled up and decorated to suit the taste and conciliate the feelings of the worshippers, who were conquered Greeks or converted Moors. Their fancy, too—richer and happier than that of the ruder races of the West—was allowed full play. An Eastern exuberance in designing details, and employing colours, is here exhibited, cramped a little, it must be confessed, by the architectural forms and the ritual arrangements to which it is applied, but still a ruling and beautifying principle throughout.

Among all these elements, those who are familiar with architectural history will hardly look for anything indicative of purely Norman taste or feelings. A mere handful of military adventurers, they conquered as soldiers of Rome and for her aggrandisement, and held the fief for her advantage: they could have brought no arts even if their country had then possessed any. They were content that their newly-acquired subjects should erect for them palaces after the beautiful fashion of the country, and that Roman priests should direct the building of churches suited to their forms, but built as the Sicilians had been accustomed to build, and decorated as they could decorate them, better than their masters and conquerors.

All this, when properly understoood, lends an interest to the history of this little branch of architecture, wholly independent of its artistic merit; but the art itself is so beautiful and so instructive, from its being one of the styles where polychromy was universally employed and is still preserved, that notwithstanding all that has been done, it still merits more attention.

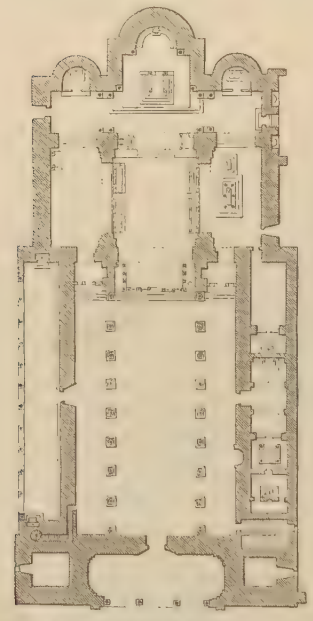
It is extremely difficult, in a limited space, to give a clear account of the Sicilian pointed style, owing to the fusion of the three styles of which it is composed being far from complete or simultaneous over the whole island, and there being no one edifice in which all three are mixed in anything like equal proportions. Each division of the island, in fact, retains a predilection for that style which characterised the majority of its inhabitants. Thus Messina and the northern coast as far as Cefalu remained Italian in the main, and the churches there have only the smallest possible admixture of either Greek or Saracenic work. The old parts of the Nunziatella at Messina might be found at Pisa, while the cathedral there and at Cefalu would hardly be out of place in Apulia, except indeed that Cefalu displays a certain early predilection for pointed arches, and something of Greek feeling in the decoration of the choir.

In like manner in Syracuse and the southern angle of the island,

797. San Giovanni degli Eremiti, Palermo. From Gally Knight's 'Normans in Sicily.'

the Greek feeling prevails almost to the exclusion of the other two. In Palermo, on the other hand, and the western parts, the architecture is so strongly Saracenic that hardly any antiquary has yet been able to admit the possibility of such buildings as the Cuba and Ziza having been erected by the Norman kings. There is, however, little or no doubt that the latter was built by William I. (1154–1169), and the other about the same time, though by whom is not so clear. Both these buildings were erected after a century of Norman dominion in the island: still the Moorish influence, so predominant in them, need not astonish us, when we consider the immeasurable superiority of the Moors in art and civilization, not only to their new rulers, but to all the other inhabitants. It was therefore only natural that they should be employed to provide for the Norman Counts such buildings as they alone had the art to erect and adorn.

A still more remarkable instance of the prevalence of Saracenic ideas is represented in woodcut No. 797, being the Church of San Giovanni degli Eremiti at Palermo. Here we find a building erected beyond all doubt as late as the year 1132, by King Roger, for the purposes of Christian worship, which would in no respect, except the form of its tower, be out of place as a mosque in the streets of Delhi or Cairo. In fact, were we guided by architectural considerations alone, this church would have more properly been described under the head of Saracenic than of Christian architecture.

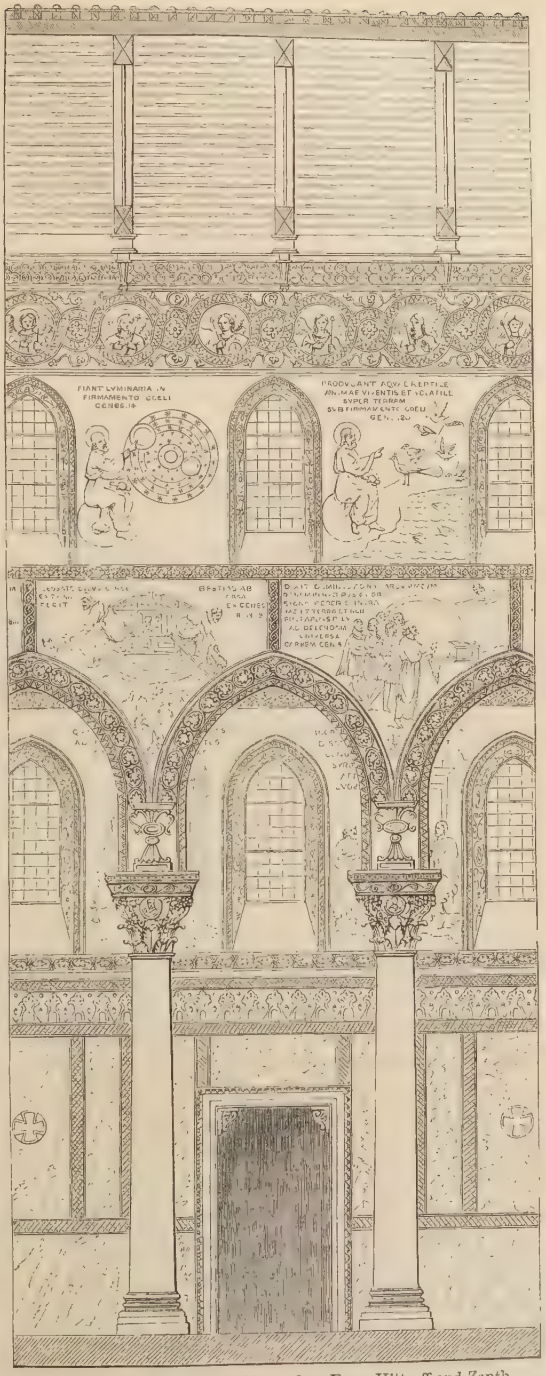


798. Plan of Church at Monreale. From Hittorf and Zanth. Scale 100 ft. to 1 in.

There are three other churches of Palermo which exhibit the new mixed style in all its completeness. These are the Martorana (1113–1139), in which the Greek element prevails somewhat to the exclusion of the other two; the Capella Palatina in the Palace, built in 1132; and the more magnificent church of Monreale, near Palermo (woodcut No. 798), begun in 1174, and certainly the finest and most beautiful of all the buildings erected by the Normans in this country. This church is 315 ft. in its extreme length; while the beautiful gem-like capella of the royal palace is much smaller, being only 125 ft. long, and consequently inferior in grandeur, though in the relative proportions of its parts, and in all other essential points, very similar.

In arrangement and dimensions the cathedral of Monreale very

much resembles that at Messina, showing the same general influence in both; but all the details of the Palermitan example betray that admixture of Greek and Saracenic feeling which is the peculiarity of Sicilian architecture. There is scarcely a single form or detail in the whole building which can strictly be called Gothic, or which points to any connexion with Northern arts or races. The plan of this, as of all the Sicilian churches, is that of a Roman basilica, far more than of a Gothic church. In none of them was any vault ever either built or intended. The central is divided from the side aisles by pillars of a single stone, generally borrowed from ancient temples, but (in this instance at least) with capitals of great beauty, suited to their position and to the load they have to support. The pier-arches are pointed, but not Gothic, having no successive planes of decoration, but being merely



799. Portion of the Nave, Monreale. From Hittorff and Zanth.

square masses of masonry of simple but stilted forms. The windows, too, though pointed, are undivided, and evidently never meant for painted glass. The roofs of the naves are generally of open framing, like those of the basilicas, and ornamented in Saracenic taste. The aisles, the intersection of the transepts and nave, and the first division of the sanctuary are generally richer, and consequently more truly Moorish. The apse again is Roman. Taken altogether, it is only the accident of the pointed arch having been borrowed from the Moors that has led to the idea of Gothic feeling existing in these edifices. It does exist at Messina and Cefalu, but in Palermo is almost wholly wanting.

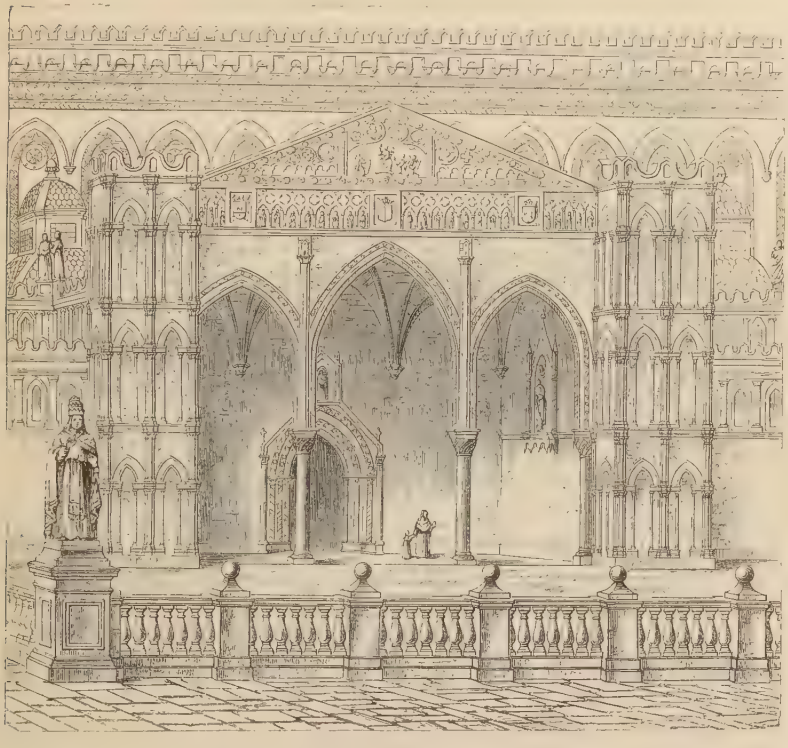
It is evident that the architectural features in the buildings of which the cathedral of Monreale is the type, were subordinate, in the eyes of their builders, to the mosaic decorations which cover every part of the interior, and are in fact the glory and pride of the edifice, by which alone it is entitled to rank among the finest of mediæval churches. All the principal personages of the Bible are represented in the stiff but grand style of Greek art, sometimes with Greek inscriptions, and accompanied by scenes illustrating the Old and New Testaments. They are separated by and intermixed with arabesques and ornaments in colour and gold, making up a decoration unrivalled in its class by anything—except, perhaps, St. Mark's—the middle ages have produced. The church at Assisi is neither so rich nor so splendid. The Certosa is infamous in taste as compared with this Sicilian cathedral. No specimen of opaque painting of its class, on this side of the Alps, can compete with it in any way. Perhaps the painted glass of some of our cathedrals may have surpassed it, but that is gone. In this respect the mosaic has the advantage. It is to be regretted that we have no direct means of comparing the effect of these two modes of decoration. In both the internal architecture was subordinate to the colour—more so perhaps, as a general rule, in these Sicilian examples than in the North. In fact, the architecture was merely a vehicle for the display of painting in its highest and most gorgeous forms.

Besides the mosaic pictures which adorn the upper part of the walls of these Palermitan churches, they possess another kind of decoration almost equally effective, the whole of the lower part of the walls being revêted with slabs of marble or porphyry disposed in the most beautiful patterns. The Martorana depends wholly for its effect on this species of decoration. In the Capella Palatina, and the church at Monreale, it occupies the lower part of the walls only, and serves as a base for the storied decorations above; but whether used separately or in combination, the result is perfect, and such as is hardly attained in any other churches in any part of Europe.

Externally the Gothic architects had immensely the advantage. They never allowed their coloured decorations to interfere with their

architectural effects. On the contrary, they so used them as to make the windows their most beautiful and attractive features.

The cathedral of Palermo, the principal entrance of which is shown in woodcut No. 800, is a building of much later date, that which we now see being principally of the 14th century. Although possessing no dignity of outline or grace of form, it is more richly ornamented externally with intersecting arches and mosaic decorations than almost any other church of its class. It is richer perhaps and better than the cathedral of Florence, inasmuch as the decorations follow the



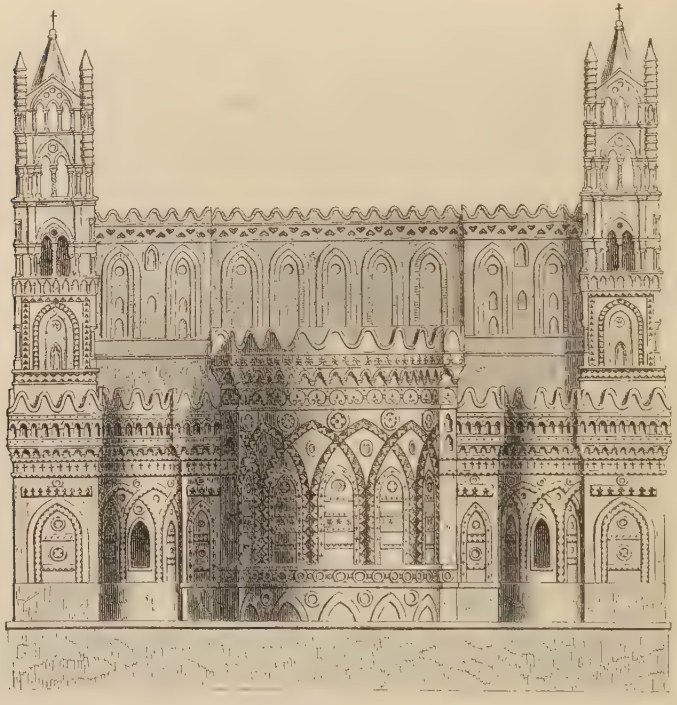
800. Lateral Entrance to Cathedral at Palermo. From Hittorff and Zanth.

construction, and are not—as there—a mere unmeaning panelling that might be applied anywhere. All this is more apparent in the apse (woodcut No. 801) than on the lateral elevation. It converts what would be only a very plain exterior into a very rich and ornamental composition; not quite suited to Northern taste, but very effective in the sunny South. Still the effect of the whole is rather pretty than grand, and as an architectural display falls far short of the bolder masonic expression of the Northern Gothic churches.

After these, one of the most important churches of that age in the

island is the cathedral of Cefalu, already alluded to. It was commenced by King Roger in 1131. It is 230 ft. long by 90 ft. wide. The choir and transepts are vaulted and groined; the nave has a wooden roof; all the arches are pointed; and with its two western towers it displays more Gothic feeling than any other church in Sicily.

The cathedral at Messina, though closely resembling that at Monreale in plan, has been so altered and rebuilt as to retain very little of its original architecture. The other churches in the island



801. East End of Cathedral at Palermo. From Rosengarten.

are either small and insignificant, or, like that at Messina, have been so altered that their features are obliterated.

Besides the Saracenic castles or palaces above mentioned, there are no important civil buildings of mediæval style in Sicily. There are two cloisters—one at Monreale and the other at Cefalu—both in the style universal in all the countries bordering on the Mediterranean Sea, and already described in speaking of those of Elne, Fontifroide, Arles, &c., as well as those of San Giovanni Laterano at Rome. Their general arrangement consists of small but elegant pillars of Corinthian design, in pairs, supporting pointed arches of great beauty

of form. In many respects this is a more beautiful mode of producing a cloistered arcade than the series of unglazed windows universally adopted in the North. The Southern method presupposes a wooden, or at most a tunnel-vaulted roof, as at Arles, whereas all our best examples have intersecting vaults of great beauty, which indeed is the excuse for the windowed arrangement assumed by them. An intermediate course, like that adopted at Zurich (woodcut No. 473), would perhaps best reconcile the difficulty; but this was only used during the period of transition from one style to the other. The effect, however, of the cloister at Monreale, with the fountain in one of its divisions, and a certain air of Eastern elegance and richness pervading the whole, is not surpassed by any of the examples on the Continent of its own size, though its dimensions do not allow it to compete with some of the larger examples of France, and especially of Spain.

As the employment of the pointed arch so early in Sicily has been much quoted in the controversy regarding the invention of that feature, it may be convenient to recapitulate here what has already been said on that subject—this being the last occasion on which it will be requisite to refer to it in the course of this work.

We have already seen that the pointed arch was used in the south of France—at Vaison, for instance—at least as early as the 10th century, but only as a vaulting expedient. During the 11th it was currently used in the south, and as far north as Burgundy; and in the 12th it was boldly adopted in the north as a vaulting, constructive, and decorative feature, giving rise to the invention of a totally new style of architectural art.

It is by no means impossible that the pointed arch was used by the Greek or Pelasgic colonists about Marseilles at a far earlier date, but this can only have been in arches or domes constructed horizontally. These may have suggested its use in radiating vaults, but can hardly be said to have influenced its adoption. Had it not been for the constructive advantages of pointed arches, the Roman circular form would certainly have retained its sway. It is possible, however, that the northern Franks would never have adopted it so completely as they did had they not become familiar with it either in Sicily or the East. When once they had so taken it up, they made it their own by employing it only as a modification of the round-arched forms previously introduced and perfected.

In Sicily the case is different; the pointed arch there never was either a vaulting or constructive expedient—it was simply a mode of eking out, by its own taller form and by stilting, the limited height of the Roman pillars, which they found and used so freely. It is the same description of arch as that used in the construction of the mosque El-Aksah at Jerusalem in the 8th century; at Cairo in rebuilding that of Amrou in the 9th or 10th, in the Azhar and other mosques of that

city, and also, I believe, in the old mosque at Kairoan, which was the immediate stepping-stone by which it crossed to Sicily. It was used too in Spain, at Cordova and Granada, before and after its introduction in Sicily, till it became a settled canon of art, and a usual form of Moorish architecture. As such it was used currently in Sicily by the Moors, and in Palermo and elsewhere became so essential a part of the architecture of the day that it was employed as a matter of course in the churches; but it was not introduced by the Normans, nor was it carried by them from Sicily into France, and, except so far as already stated, it had no influence on the arts of France. In fact there is no connexion, either ethnographically or architecturally, between the Sicilian pointed arch and the French; and beyond the accident of the broken centre they have nothing in common.

Although, therefore, it can hardly again be used as evidence in the question of the invention of the pointed arch, the architecture of Sicily deserves a better monography than it has yet been made the subject of. It must, however, be written by some one intimately familiar with the Byzantine, Saracenic, and Romanesque styles. To any one so qualified, Sicily will afford the best field in Europe for tracing the influence of race and climate on architecture; for nowhere, owing in a great measure to its insular position, can the facts be more easily traced, or the results more easily observed.

In one other point of view also the style deserves attention, for from it alone can we fairly weigh the merit of the two systems of internal decoration employed during the middle ages. By comparing, for instance, the cathedral at Monreale with such a building as the Sainte Chapelle at Paris, we may judge whether polychromy by opaque pictures in mosaic, or by translucent pictures on glass, is the more beautiful mode of decorating the interior of a building. The former have no doubt the advantage of durability, and interfere less with the architectural effect, but for beauty and brilliancy of effect I have little doubt that the general verdict would be in favour of the latter. The question has never yet been fairly discussed; and examples sufficiently approximating to one another, either in age or style, are so rare that its determination is not easy. For that very reason it is the more desirable that we should make the most of those we have, and try if from them we can settle one of the most important questions which architectural history has left to be determined with reference to our future progress in the art.

CHAPTER IX.

GOTHIC ARCHITECTURE IN PALESTINE

CONTENTS.

Church of Holy Sepulchre, Jerusalem – Churches at Abû Gosh and Lydda—Mosque at Hebron.

CHRONOLOGY.

Jerusalem taken by Crusaders	A.D. 1099	Third Crusade. Richard II.	A.D. 1192
Baudouin I.	1100	Frederick II. re-enters Jerusalem	1229
Baudouin II.	1118	Retaken by Sultan of Damascus	1239
Foulques, Count of Anjou	1131	Final overthrow of Christians	1244
Saladin retakes Jerusalem	1187		

It may at first sight appear strange that any form of architecture in Syria should be treated as a part of that of Italy, but the circumstances of the case are so exceptional that there can be little doubt of the correctness of so doing. Gothic architecture was not a natural growth in Palestine, but distinctly an importation of the Crusaders, transplanted by them to a soil where it took no root, and from which it died out when the fostering care of Western protection was removed. In this it is only too true a reflex of the movement to which it owed its origin. The Crusades furnish one of those instances in the history of the world where the conquerors of a nation have been so numerous as entirely to supplant, for a time, the native population and the indigenous institutions of the country. For nearly a century Jerusalem was subject to kings and barons of a foreign race. The feudal system was imported entire, with its orders of knighthood, its "Assises," and all the concomitant institutions which had grown up with the feudal system in Western Europe. With them, as a matter of course, came the hierarchy of the Roman Church, and with it the one style of architecture which they then knew, or which was appropriate to their form of worship.

The one point which is not at first sight obvious is, why the Gothic style in Palestine should be so essentially Italian, with so little admixture of the styles prevalent on the northern side of the Alps. It may have been that then, as now, the Italians settled loosely in the land. We know that the trade of the Levant was at that time in the hands of Venice and other Italian cities, and it is clear that it was

easier to send to Italy for artists and workmen, than to France and Germany, and much more likely that an Italian would undertake the erection of buildings in the East than a Northern architect, whose ideas of Palestine and its ways must have been extremely indistinct. Be this as it may, there is little in the Gothic architecture of Palestine either as regards arrangement or details—except the plan of the church of the Holy Sepulchre—which would excite attention as singular if found in the South of Italy or Sicily; and as little that would not seem out of place if found on our side of the Alps.

Holy Sepulchre.

The principal building erected by the Crusaders in Palestine was, as might be expected, the church of the Holy Sepulchre—the deliverance of which from the hands of the infidels was the object of that wonderful outburst of national enthusiasm.

For a century or more before the Crusades the Christians had been debarred from approaching the sacred Dome erected by Constantine over the holy rock which still contains the cave—the "salutary monument of our Saviour's resurrection,"[1] and had been obliged to content themselves with a temporary church of very moderate pretensions erected in their own quarter of the city.[2] In this latter building the Easter rites had been celebrated since the year 1048; and when the Crusaders (in 1099) achieved the unexpected deliverance of the city from the Moslem, it seemed to the uncritical intellect of the age better to retain the church where it then was than to unsettle the belief of the ignorant by transferring it back to its original site. The "Dome of the Rock,"—now known to European travellers as the "Mosque of Omar"—was throughout the 12th century considered as equal in sanctity with the church of the Sepulchre, and the veneration with which it was regarded had, no doubt, considerable influence on the architecture of the age.

When the Crusaders reached Jerusalem the sepulchre appears to have stood in a court open to the sky,[3] with five small chapels attached to it.

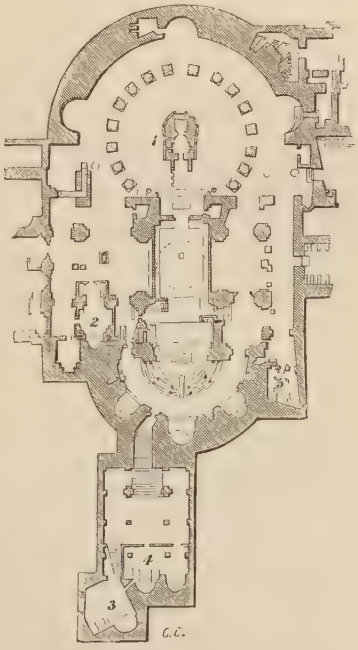
As soon as their kingdom was sufficiently consolidated and leisure afforded them, the Crusaders set about rebuilding this church, apparently from its foundations. There is no precise record of when this took place, but it must have been about the year 1130. The plan they decided upon for this purpose was both pleasing and appropriate, though entirely at variance with the arrangement of a basilica and

[1] Eusebius, 'Vita Constantini,' lib. iii. ch. xxviii.

[2] For particulars regarding the transference the reader is referred to the Author's Essays on 'The Ancient Topography of Jerusalem,' and 'The Sepulchre and the Temple at Jerusalem.'

[3] Sæwulf, 'Peregrinatio,' &c., (A.D. 1102–3), p. 83.

independent tomb-house adopted by Constantine when he erected his sacred buildings in Jerusalem, some seven centuries before the Crusades. The form of the new buildings is now tolerably familiar to the student of architecture. The earliest germ of it is found in the church of St. George at Thessalonica (woodcut No. 844). It is further developed at Bozrah (woodcut No. 838). It was currently employed in the North of Europe (woodcuts Nos. 527 to 532), and bloomed into perfection at Cologne in the church of St. Gereon (woodcut No. 479). It is also found at Little Maplestead (woodcut No. 581), Zara (woodcut No. 781), and elsewhere. In all these instances it consists of a circular nave leading to a rectangular choir terminated by an apse. Though primarily sepulchral in its origin, it is used in all these places without any reference to its original destination, and had become a recognized form of Christian church for the ordinary purposes of worship. At Jerusalem, however, it was chosen because its form recalled the purpose to which it was there to be applied. The circular nave again became the receptacle of the tomb, and the choir and its apse were turned towards the east in obedience to the Northern superstition as respects orientation.



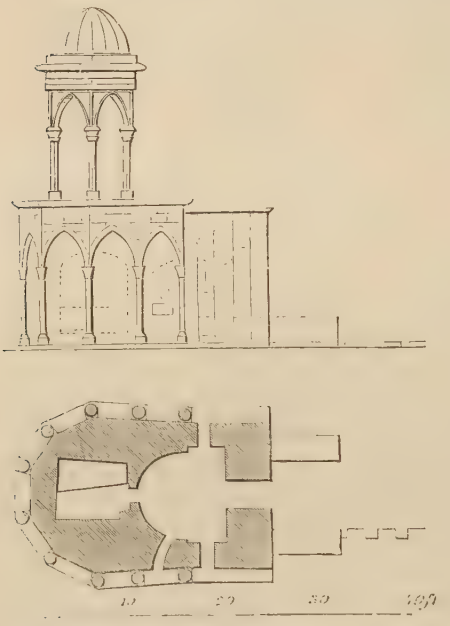
802. Plan of the Church of the Holy Sepulchre. From B. Amico. Scale 100 ft. to 1 in.

Though containing so many objects of interest, the church itself is not large, measuring only 245 ft. long internally, exclusive of the crypt and chapel of the Cross, which extend beyond the apse to the eastward in such a manner as entirely to preclude the idea of a nave ever having existed in that direction.

So far as can be judged from the information which remains to us the style (before the fire of 1808, after which the Rotunda was entirely rebuilt) was tolerably homogeneous throughout. The circular part (dedicated 1149), which was that first erected, was constructed wholly in the Round-arched style. The choir and apse, which were not completed before 1169, shew the progress the new style was then making. All the constructive arches in this part of the building are pointed— but the decorative portions still retain the circular form.

Owing to its situation and its being so much encumbered by other buildings, the only part of the exterior which makes any pretension to

architectural magnificence is the southern double portal, erected apparently between the years 1140 and 1160. This is a rich and elegant example of the style of ornamentation prevalent in Sicily and Southern Italy in the 12th century, but its most elaborate decoration is supplied by two rich cornices of classical date, built-in unsymmetrically as string-courses, amongst details belonging to the time of the Crusades. From their style these cornices undoubtedly belong to the age of Constantine, and are probably fragments of his basilica, which had been destroyed in the beginning of the 11th century by El-Hakem, and the ruins of which must have been lying about at the time this church was in course of erection. At an earlier age such fragments would probably have been more extensively used-up; but in the 12th century the architects had acquired confidence in themselves and their own style, and despised classical arrangements both in plan and in detail.



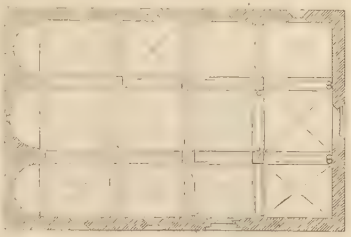
803. Holy Sepulchre—Plan and Elevation as it existed before the fire in 1808. From Bernardino Amico.

The sepulchre itself seems to have been rebuilt, about the year 1555,[1] or at least so thoroughly repaired that it is difficult to say what its exact originalform may have been. Probably it did not differ materially from that shewn in the woodcut, since that resembles the style of the 12th much more than that of the 16th century. In any case, it furnishes a curious exemplification of the uncritical simplicity of the age. The walls were marble inside and out, and in some places 18 in. or less than 2 ft. in thickness, so that it is impossible that there could be any live rock between the marble slabs. It would have been so easy to have made the walls thicker, or to have built them up with rough unhewn masses of rock! But the unsuspecting faith of the middle ages would have been equally willing to believe it was rock-cut, if told so, had it been fashioned in wood or in any other material. It probably never would have been assumed that the rock was there if it were not so difficult for educated men in a critical

[1] Quaresimus, 'Elucidatio,' ii. p. 386.

age to understand the simple faith of dark ages. A man must live among people in an early stage of civilization, and see miracles performed, before he can understand what took place in Europe between the 8th and 13th centuries.

Although the church of the Holy Sepulchre was, naturally, by far the greatest work undertaken by the Crusaders, there are some six or seven other churches in Jerusalem,[1] or its immediate vicinity, which were erected during the 12th century. The most complete of these at the present day is that of St. Anne—now in course of thorough repair by the French Government. It is a small church, 112 ft. long by 66 ft. wide internally, divided into three aisles, each terminating in an apse and covered with intersecting vaults, shewing strongly marked transverse ribs of the usual Italian pattern. It has also a small dome on the intersection between the nave and transept. The windows are small and without tracery. It is, in fact, a counterpart of the usual Italian church of the age.



804. Plan of Church at Abû Gosh. From De Vogüé. Scale 50 ft. to 1 in.

805. East End of Church at Abû Gosh. From De Vogüé.

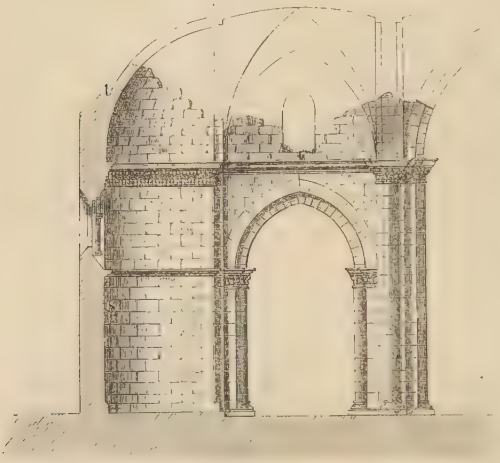
The same remarks apply to Ste. Marie la Grande, Ste. Marie Latine, the Madelaine, and other churches which the Christians built in their quarter of the town, during their occupation, to replace those of which the Moslems had deprived them, and which originally stood in the Haram area, in the immediate proximity of the true church of Constantine.

One of the most perfect churches of this age, out of Jerusalem, is that at Abû Gosh—the ancient Kirjath-Jearim. Externally it is a rectangle, 86 ft. by 57 ft., with three apses which do not appear externally. Under the whole is an extensive crypt. Though small, it is so complete, and so elegant in all its details, that it would be difficult to find anywhere a more perfect example of the style. As it now stands it is very much simpler and plainer than any Northern example of the same age would be; but it

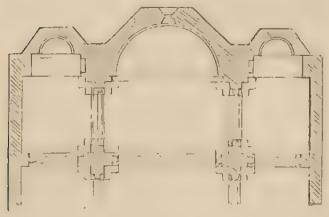
[1] All these are carefully described and delineated by Count De Vogüé, in his beautiful work entitled 'Les Églises de la Terre Sainte,' Paris, 1860.

originally depended on painting for its decoration, and traces of this may still be seen on its desecrated walls. It is now used as a cattle-shed. The church at Ramleh is one of the largest, and must originally have been one of the finest, of these Syrian churches. It is now used as a mosque, and the consequent alteration of its arrangement, with plaster and whitewash, have done much to destroy its architectural effect.

At Sebaste there is one as large as that at Ramleh—160 ft. by 80 ft., —and shewing a more completely developed Gothic style than those at Jerusalem. At Lydda there is another very similar in detail to that last mentioned. Though now only a fragment, it is one of singular elegance, and shews a purity of detail and arrangement not usual in Northern churches of that age. De Vogüé is of opinion that both the last-named churches must have been completed before the year 1187. It is hard, however, to believe that an Italian Gothic style could have attained that degree of perfection so early, and if the date assigned is correct it is evident that the pointed style was developed earlier in the East than in the West, a circumstance which from our knowledge of what had happened in Armenia and elsewhere is by no means improbable.



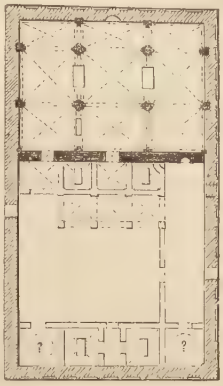
806. East End of Church at Lydda. From De Vogüé.



807. Apse of Church at Lydda. Scale 50 ft. to 1 in.

The date assigned to these churches is rendered more probable by the existence of a Gothic building, certainly as advanced as any of those mentioned within the enclosure of the mosque at Hebron. If this was a work of the Crusaders it must have been built before 1187, since the Christians never had access to the place after their defeat at Tiberias. If not erected by them, we are forced to assume that the Moslems, after recovering possession of the sepulchres of the Patriarchs, employed some Christian renegades or slaves to erect a mosque on the spot, in their own

style of architecture. And this is, by no means improbable, since it is the only Christian Church (if it be one) in Palestine which has no apse, though there would have been no difficulty in introducing three apses in the same manner as at Abû Gosh (woodcut No. 804), had it been so desired. It should also be remarked that the three aisles point southward towards Mecca, and that, except in style, it has all the appearance of a mosque. Both Christian and Mahometan tradition are silent as to its erection, so that the determination of the question must depend on a more careful examination than has yet been possible. Whichever way it may be decided, it is a curious question. It is either a Christian building without the arrangement elsewhere universally indispensable, or it is a Moslem mosque in a Christian style of architecture. If the former, the complete development of the Italian pointed style of architecture in the East must be fixed at not less than half a century anterior to that in the West.[1]



808. Plan of Mosque at Hebron. Scale 100 ft. to 1 in.
The Gothic portion is shaded black, the Jewish hatched, and the Mahomedan outlined.

[1] For further particulars regarding this building, see 'The Holy Sepulchre and the Temple at Jerusalem,' by the author, Appendix J.

BOOK IX.

BYZANTINE ARCHITECTURE.

CHAPTER I.

INTRODUCTORY.

CHRONOLOGY.

Constantine founds Constantinople	A.D. 324	Fall of Western Empire	A.D. 476
First Council of Nice	325	Justinian I.	527
Julian the Apostate	361	Justin II.	565
Theodosius the Great	379	Heraclius	610
Theodosius II.	408	The Hejira	622
Marcian	450		

The term Byzantine has of late years been so loosely and incorrectly used—especially by French writers on architecture—that it is now extremely difficult to restrict it to the only style to which it really belongs. Wherever a certain amount of coloured decoration is employed, or a peculiar form of carving found, the name Byzantine is applied to churches on the Rhine or in France; although no similar ornaments are found in the Eastern Empire, and though no connection can be traced between the builders of the Western churches and the architects of Byzantium, or the countries subject to her sway.

Strictly speaking, the term ought only to be applied to the style of architecture which arose in Byzantium and the East after Constantine transferred the government of the Roman Empire to that city. It is especially the style of the Greek Church as contradistinguished from that of the Roman Church, and ought never to be employed for anything beyond its limits. The only obstacle confining it to this definition occurs between the ages of Constantine and Justinian. Up to the reign of the last-named monarch the separation between the two

churches was not complete or clearly defined, and the architecture was of course likewise in a state of transition, sometimes inclining to one style, sometimes to the other. After Justinian's time, the line may be clearly and sharply drawn, and it would therefore be extremely convenient if the term "Greek architecture" could be used for the style of the Greek Church from that time to the present day.

If that term be inadmissible, the term "Sclavonic" might be applied, though only in the sense in which the Gothic style could be designated as Teutonic. Both, however, imply ethnographic distinctions which it would not be easy to sustain. The term "Gothic" happily avoids these, and so would "Greek," but for the danger of its being confounded with "Grecian," which is the proper name for the classical style of the ancient Greeks. If the employment of either of these terms is deemed inadvisable, it will be necessary to divide the style into Old and New Byzantine—the first comprehending the three centuries of transition that elapsed from Constantine to the Persian war of Heraclius and the rise of the Mahomedan power, which entirely changed the face of the Eastern Empire,—the second, or Neo Byzantine, including all those forms which were practised in the East from the reappearance of the style, in or after the 8th century, till it was superseded by the Renaissance.

Thus divided, the true, or Old Byzantine, style would be the exact counterpart of the Romanesque. As explained in a former chapter (vol. i. p. 352) that style was a transition from the classical Roman to the styles adopted by the Barbarians, the old style having died out about the age of Gregory the Great (A.D. 600). An exactly similar process went on in the East, and culminated in the erection of Sta. Sophia (A.D. 532–558); the difference being that during this age the Western Empire was in a state of decay, ending in a *débacle* from which the Gothic style practically emerged only some four centuries later. The Eastern Empire, on the contrary, was during that time progressively forming itself; and did form a style of its own of singular beauty and perfection, which it left to its Sclavonic successors to use or abuse as their means or tastes dictated. The Western Empire was not in a position to form a style so early, and the creation of one was reserved till after the revival in the 11th century.

Though the styles of the East and the West became afterwards so distinctly separate, we must not lose sight of the fact, that during the age of transition (324–530) no clear line of demarcation can be traced. Constantinople, Rome, and Ravenna were only principal cities of one empire, throughout the whole of which the people were striving simultaneously to convert a Pagan into a Christian style, and working from the same basis with the same materials. Prior to the age of Constantine one style pervaded the whole empire. The buildings at Palmyra, Jerash, or Baalbec, Nice or Merida, are barely distin-

guishable from those of the capital, and the problem of how the pagan style could be best converted to Christian uses was the same for all. The consequence is, that if we were at present writing a history which stopped with the beginning of the 7th century, the only philosophical mode of treating the question would be to consider the style as one and indivisible for that period; but as the separation was throughout steadily, though almost imperceptibly, making its way, and gradually became fixed and permanent, it will be found more convenient to assume the separation from the beginning. This method will no doubt lead to some repetition, but that is a small inconvenience compared with the amount of clearness obtained. At the same time, if any one were writing a history of Byzantine architecture only, it would be necessary to include Ravenna, and probably Venice and some other towns in Italy and Sicily in the Eastern division. On the other hand, in a history devoted exclusively to the Romanesque styles, it would be impossible to omit the churches at Jerusalem, Bethlehem, or Salonica, and elsewhere in the East. Under these circumstances, it is necessary to draw an arbitrary line somewhere; and for this purpose the western limits of the Turkish Empire and of Russia will answer every practical purpose. Eastward of this line every country in which the Christian religion at any time prevailed may be considered as belonging to the Byzantine province.

During the first three centuries of the style (324–622) it will be convenient to consider the whole East as one architectural province. When our knowledge is more complete, it may be possible to separate it into several, but at present we are only beginning to see the steps by which the style grew up, and are still very far from the knowledge requisite for such limitations, even if it should hereafter be discovered that a sufficient number exist. All the great churches with which Constantine and his immediate successors adorned their new capital have perished. Like the churches at Jerusalem and Bethlehem, they were probably constructed with wooden roofs and even wooden architraves, and thus soon became a prey to the flames in that most combustible of capitals. Christian architecture has been entirely swept off the face of the earth at Antioch, and very few and imperfect vestiges are found of the seven churches of Asia Minor. Still, the recent researches of De Vogüé in Northern Syria,[1] and of Texier in Salonica shew how much unexpected wealth still remains to be explored, and in a few years more this chapter of our history may assume a shape as much more complete than what is now written, as it excels what we were compelled to be content with ten years ago.

[1] 'Syrie Centrale: Architecture civile et religeuse du Ier au VIIe Siècle. Par le Comte Melchior de Vogüé.' To be completed in 30 Parts. 17 are published.

Since therefore, under present circumstances, no ethnographic treatment of the subject seems feasible, the clearest mode of presenting it will probably be to adopt one purely technical.

For this purpose it will be found convenient, first, to separate the Neo-Byzantine style from the older division, which, in order not to multiply terms, may be styled the Byzantine *par excellence;* the first chapter extending from Constantine, 324, to the Hejira, 622; and the second from that time to the end of the middle ages.

In reference to the ecclesiastical architecture of the first division, it is proposed to treat—

First, of churches of the Basilican or rectangular forms, subdividing them into those having wooden, and those having stone roofs.

Secondly, to describe circular churches in the same manner, subdividing them similarly into those with wooden roofs, and those with stone roofs or true domes.

This subdivision will not be necessary in speaking of the Neo-Byzantine churches, since they all have stone roofs and true domes.

With regard to civil or domestic architecture very little need at present be said, but we may hope that, a few years hence, materials will exist for an interesting chapter on even this branch of the subject.

CHAPTER II.

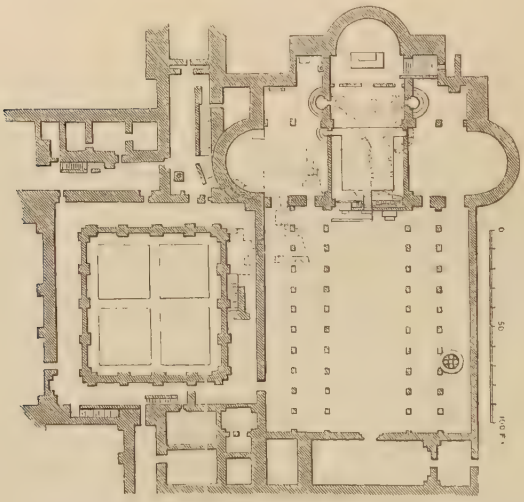
BASILICAS.

CONTENTS.

Churches at Bethlehem, Jerusalem, and Thessalonica — Rectangular Churches in Syria and Asia Minor, with wooden roofs and with stone vaults.

BASILICAS may be subdivided into two classes — that in which the nave is divided from the side-aisles by pillars, carrying either entablatures or arches, as the most purely Romanesque — and that which has piers supporting arches only, and is transitional between the first style and the more original forms which were elaborated out of it.

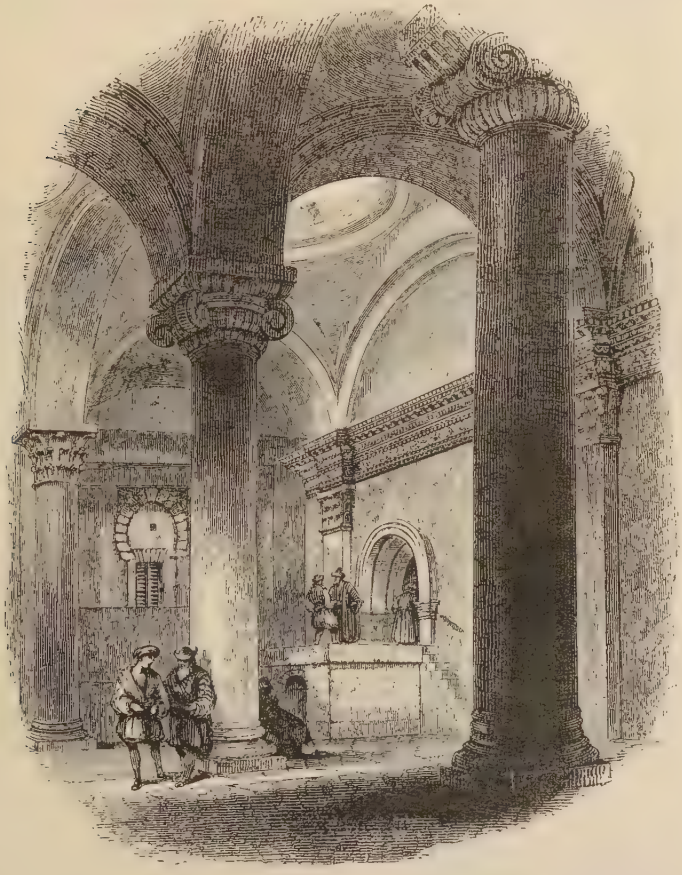
Of the former class one of the most authentic and perfect is that erected at Bethlehem by Helena, the mother of Constantine, in front of the cave of the Nativity. The nave seems to be a nearly unaltered example of this age, with the advantage over the contemporary churches at Rome, that all its pillars and their capitals were made for the places they occupy, whereby the whole possesses a completeness and justness of proportion not found in the metropolis. Its dimensions, though sufficient for effect, are not large, being internally 103 ft. across, by 215 ft. east and west. The choir with its three apses does not seem to be part of the original arrangement, but to have been added by Justinian when he renovated — Eutychius says rebuilt — the church. My impression is that a detached circular building,



869. Church of the Nativity at Bethlehem. From Bernardino Amico.

external to the basilica, originally contained the entrance to the cave. The frescoes were added apparently in the 11th or 12th century.[1]

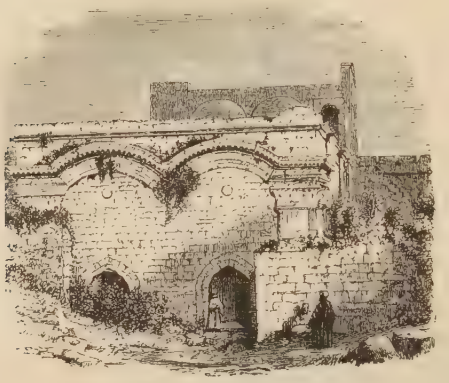
One of the principal points of interest connected with this church is, that it enables us to realise the description Eusebius gives us of the Basilica which Constantine erected at Jerusalem in honour of the Resurrection. Like this church it was five-aisled, but had galleries, and, owing to the irregularity of the ground, the south gallery was on a level with the ground outside, as was the case with the churches of St. Lorenzo and Sta. Agnese at Rome. The apse also was on a larger scale than could well have been possible in the Bethlehem church, and adorned with twelve pillars, symbolical of the Apostles.



810. Interior of the Golden Gateway. From a Drawing by Catherwood. Originally published in Fisher's 'Oriental Album.'

[1] De Vogüé, 'Églises de la Terre Sainte,' p. 101.

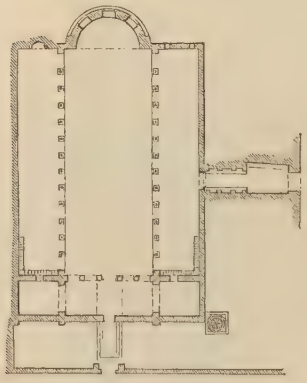
Of this building nothing now remains but the portal, known as the Golden Gateway,[1] which is extremely interesting as an example of the style of the age, when practised where ancient materials were not available to be worked up in its design. Both externally and internally it preserves all the elements of transition between a horizontal trabeate style, like the classical Roman and an arcuate style, which Christian architecture became immediately after its date.[2]



811. Golden Gateway (west side). From a Photograph.

THESSALONICA.

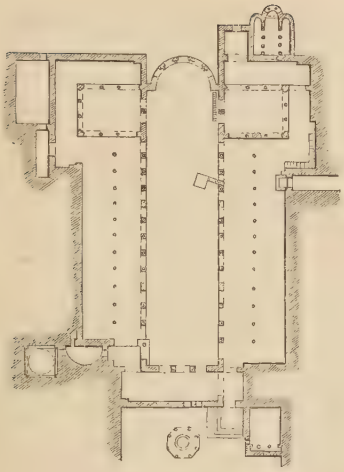
As before mentioned, it is to Constantinople, or Alexandria, or Antioch, that we should naturally look to supply us with examples of the style of the early transition, but as these fail, it is to Thessalonica alone—in so far as we now know—that we can turn. In that city there are two ancient examples. One, now known as the Eski Juma or old mosque, may belong to the 5th century, though there are no very exact data by which to fix its age. It consists of a nave, measuring, exclusive of narthex and bema, 93 ft. across by 120 ft.—very much the proportion of the Bethlehem church, but having only three aisles, the centre one 48 ft. in width. The other church, that of St Demetrius, is larger, but less simple. It is five-aisled, has two internal transepts, and various adjuncts. Altogether it seems



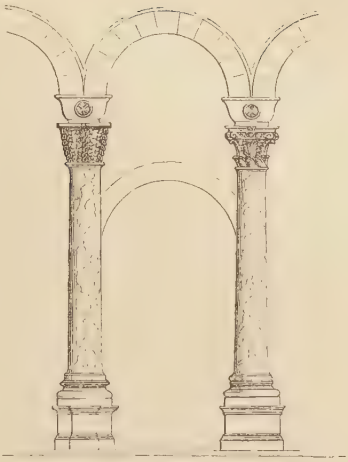
812. Eski Juma, Thessalonica. From Texier and Pullan. Scale 100 ft. to 1 in.

[1] It now seems to be generally admitted, even by those most opposed to my views in this matter, that this gateway was erected for festal purposes by Christians between the ages of Constantine and Justinian (De Vogüé says 5th to 6th century), but no one has ventured to suggest by whom or for what purpose. Till they can do so they have no *locus standi* in the argument as to the age or destination of these buildings.

[2] For further particulars see 'The Holy Sepulchre and the Temple at Jerusalem,' by the author. Murray, 1865.



813. St. Demetrius, Thessalonica. From Texier and Pullan. Scale 100 ft. to 1 in.



814. Arches in St. Demetrius at Thessalonica, A.D. 500 to 520.

a considerable advance towards the more complicated form of a Christian church. Both these churches have capacious galleries, running above the side-aisles, and probably devoted to the accommodation of the women. The date of St. Demetrius is most probably among the first years of the 6th century.[1] The general ordinance of the pillars will be understood from the woodcut (No. 814). Generally they are placed on elevated bases or stools, like those at Spalatro and in the Dome of the Rock at Jerusalem, and all have a block above the capital, which in the Jerusalem example represents the architrave, but has here become an essential feature placed

815. Pillar in Church of St John, Constantinople.

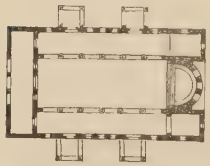
[1] The particulars for these churches are taken from Texier and Pullan's splendid work on Byzantine architecture, published by Day, 1864; but, as will be seen, I differ essentially with the authors as to the dates of the buildings they describe.

on the capital to support the springing of the arch. In this form it is found very generally between the age of Constantine and Justinian, but after his reign it fell into disuse. This is not surprising, as it is far from being agreeable, though just such a characteristic as generally occurs in ages of transition.

So far as we now know, there is only one church of this class at Constantinople—that known as St. John Studios,—a three-aisled basilica, 125 ft. long by 85 in width externally. Its date appears to be tolerably well ascertained as A.D. 463, and from this circumstance, as well as its being in the metropolis, it shows less deviation from the classical type than the provincial examples just quoted. The lower range of columns supporting the gallery still retain the classical outline and support a horizontal entablature (woodcut No. 815); the upper supporting arches have very little resemblance to the classical type, and are wanting in the architrave block, which in fact never seems to have been admired in the capital.

SYRIA AND ASIA MINOR.

The country where—so far at least as we at present know—the Byzantine Basilica was principally developed was Northern Syria. Already in De Vogüé's work, even in its incomplete state, some dozen of churches are indicated having the aisles divided from the naves by pillars supporting arches. One of these only—that at Soueideh—has five aisles, all the rest three. Almost all have plain semicircular apses, sometimes only seen internally, like those mentioned in the first volume (page 359), but sometimes also projecting, as was afterwards universally the fashion. Two at least have square terminations (Kefr Kileh and Behioh), but this seems exceptional. Most of them are almost the size of our ordinary parish churches—100 ft. by 60, or thereabouts—and all belong to the three centuries—the 4th, 5th, and 6th—of which this chapter especially treats.



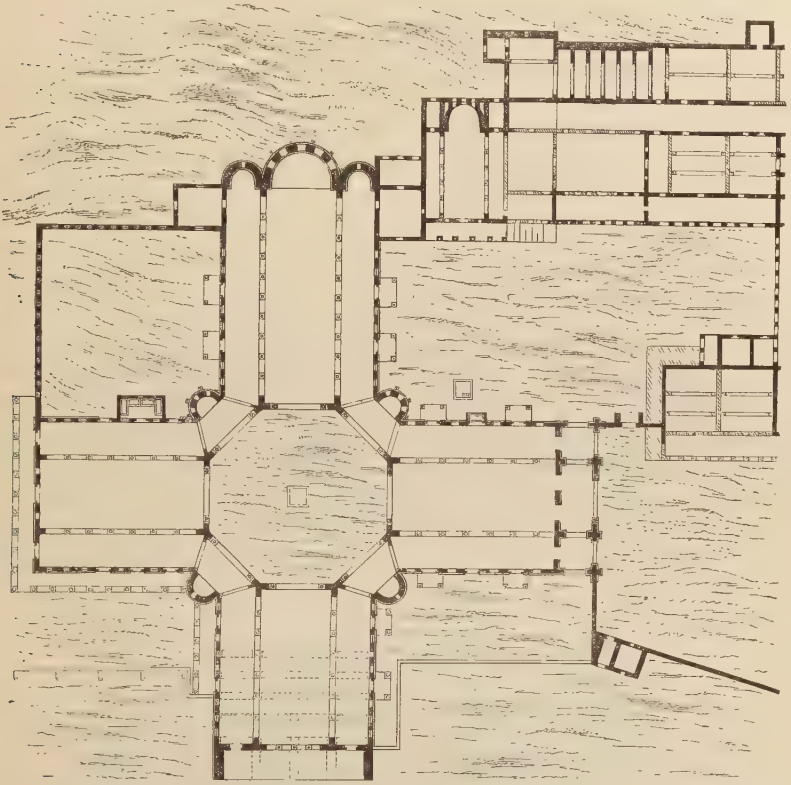
816. Plan of Church in Baquoza. Scale 100 ft. to 1 in.

The church at Baquoza may serve as a type of the class both in plan and section (woodcuts Nos. 816, 817). Its dimensions externally are 60 ft. by 105; and besides the narthex—not shown in the section—it has four lateral porches. It has also two square chapels or vestries at the end of the aisles—an arrangement almost universal in these churches.

817. Section of Church at Baquoza. From De Vogüé. Scale 50 ft. to 1 in.

The most remarkable of the group, however, is that of St. Simeon

Stylites, at Kelat Seman, about 20 miles east of Antioch. Its dimensions are very considerable, being 330 ft. long, north and south, and, as nearly as may be, 300 ft. east and west, across what may be called the transepts. The centre is occupied by a great octagon, 93 ft. across, on a rock in the centre of which the pillar of that eccentric saint originally stood. This apparently was never roofed over, but stood always exposed to the air of heaven.[1]



818. Plan of Church and Part of Monastic Buildings at Kelat Seman. From De Vogüé. Scale 100 ft. to 1 in.

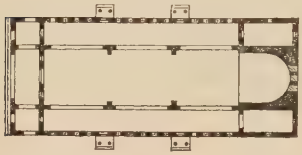
The greater part of the conventual buildings belonging to this church still remain in a state of completeness,—a fact which will be startling to those who are not aware how many of the great religious establishments of Syria still stand entire, wanting only the roofs, which were apparently the only parts constructed of wood.

The whole of the buildings at Kelat Seman seem to have been completed within the limits of the 5th century, and not to have been

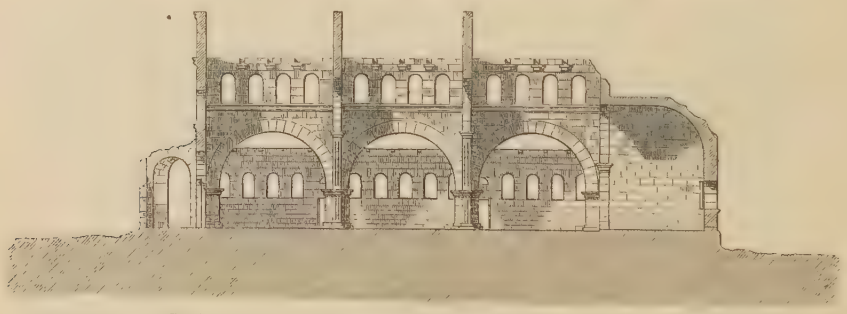
[1] Another very small church, that of Moudjeleia, though under 50 feet square, seems to have adopted the same hypæthral arrangement.

touched or altered since they were deserted, apparently in consequence of the Mahometan irruption in the 7th century. The most curious point is that such a building should have remained so long in such a situation, unknown to the Western world; for the notices hitherto published have been meagre and unsatisfactory in the extreme. But we now know that when all the details are made public, they will form by far the most valuable contribution yet offered to our knowledge of the architecture of that age.

In the same province we find also the earliest examples of the use of pier arches in a church to separate the nave from the aisles. These seem to have been currently used in Northern Syria in the 6th century, though not found in the West—at least not used in the same manner—for several centuries later. Generally three such arches only were employed in the length of the nave, and they consequently left the floor so open and free, that it is very questionable if in churches of limited dimensions the introduction of a much larger number by the Gothic architects was an improvement. Taking it altogether, it is probable that such a church as that at Rouheiha (woodcut No. 820) would, if literally reproduced, make a better and cheaper church for an English parish than the mediæval models we are so fond of copying. A considerable amount of perspective effect is obtained by throwing two transverse arches across the nave, dividing it into 3 compartments, each including 4 windows in the clerestory; and



819. Plan of Church at Rouheiha. Scale 100 ft. to 1 in.



820. Section of Church at Rouheiha. From De Vogüé. Scale 50 ft. to 1 in.

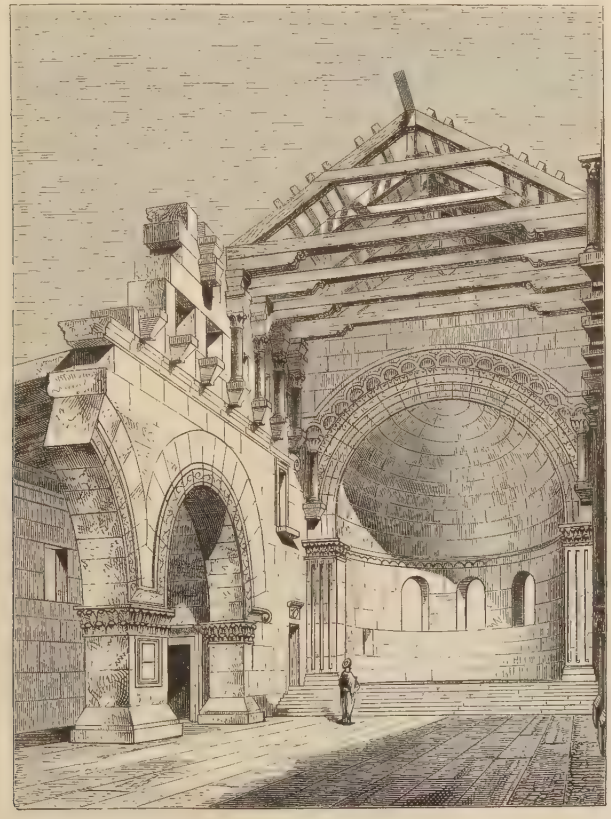
the whole design is simple and solid in a degree seldom surpassed in buildings of its class. Its dimensions are 63 ft. by 150 over all externally.

In many of these churches the transverse arches of the nave are omitted; and when, as at Kalb Louzeh (woodcut No. 822), the clerestory is accentuated by roofing shafts, the same effect of perspective is obtained by other means, and perhaps as successfully. It is very interesting, however, to find that as early as the 6th century the architects were

thoughtfully feeling their way towards those very principles of design which many centuries afterwards enabled the Gothic architects to produce their most successful effects. The introduction of four windows over each great arch, and of a roofing-shaft between each to support the beams of the roof, was a happy thought, and it is wonderful it was so completely lost sight of afterwards.

821. Plan of Church at Kalb Louzeh. Scale 100 ft. to 1 in.

It is probable that the apse (woodcut No. 822) was originally adorned with paintings or mosaics, or at least that it was intended it should be so ornamented; but even as it is, it is so well proportioned to the size of the church, and to its position, and so appropriately ornamented, that it is better than most of those found in Roman basilicas; and, for a small church, is a more dignified receptacle for the altar than either the French chevet or the English chancel.

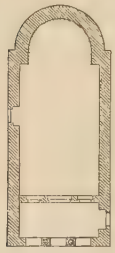


822. Apse of Church at Kalb Louzeh. From De Vogüé.

Did our limits admit of it, it would be not only pleasant but in-

structive to dwell longer on this subject; for few parts of our enquiry can be more interesting than to find that, as early as the 6th century, the Roman basilica had been converted into a Christian church, complete in all its details, and—internally at least—in a style of architecture as consistent and almost as far removed from its classical prototype as the mediæval Gothic itself.

Externally, too, the style was becoming independent of classical models, though hardly in the same degree. The porches of the churches were generally formed in two storeys, the lower having a large central arch of admission, the upper consisting of a colonnade which partially hid, while it supported, an open screen of windows that admitted a flood of light into the nave just in position where it was most effective. Without glass or mullions such a range of windows must have appeared weak, and would have admitted rain; but when sheltered by a screen of pillars, it was both convenient and artistic.

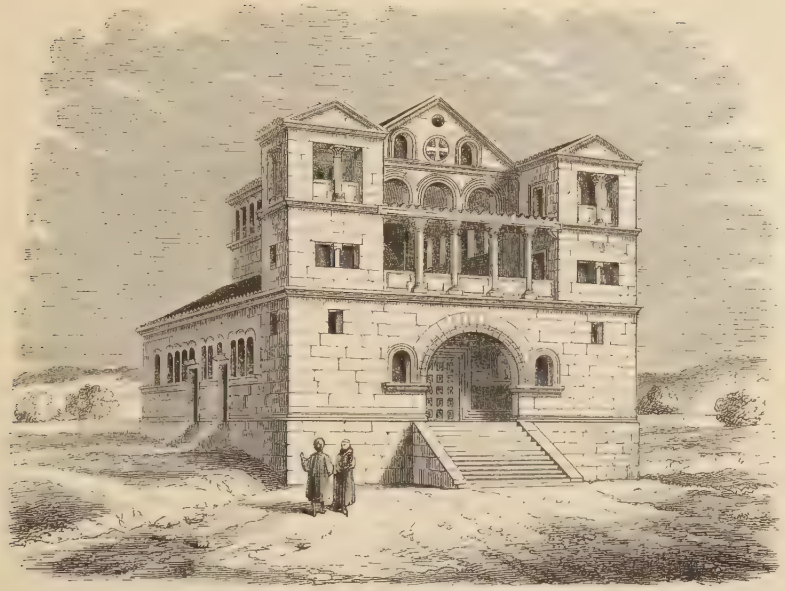


823. Chapel at Babouda. Scale 50 ft. to 1 in.

This mode of lighting is better illustrated at Babouda, where it is employed in its simplest form. No light is admitted to the chapel except through one great semicircular window over the entrance, and this is protected externally by a screen of columns. This mode of introducing light, as we shall afterwards see, was common in India at this age, and earlier, all the Chaitya caves being lighted in the same manner; and for artistic effect it is equal, if not superior, to any other which has yet been invented. The light is high, and behind the worshipper, and thrown direct on the altar, or principal part of the church. In very large buildings it could hardly be applied, but for smaller ones it is singularly effective.

824. Elevation of Chapel at Babouda. From De Vogüé.

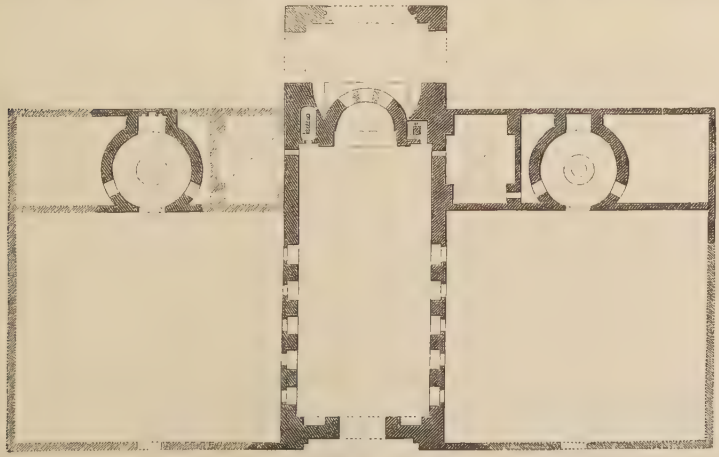
The external effect of these buildings, though not so original as the interior, is still very far removed from the classical type, and presents a variety of outline and detail very different from the simplicity of a Pagan temple. One of the most complete is that at Tourmanim (woodcut No. 825), though that at Kalb Louzeh is nearly as perfect, but simpler in detail. For a church of the 6th century it is wonderful how many elements of later buildings it suggests; even the western towers seem to be indicated, and,



825. Façade of Church at Tourmanim. From De Vogüé.

except the four columns of the gallery, there is very little to recal the style out of which it arose.

There are considerable remains of a wooden-roofed basilica at Pergamus, which may be even older than those just described; but having been built in brick, and only faced with stone—the whole of which is gone—it is difficult to feel sure of the character of its details and mouldings. It had galleries on either side of the nave, but how these were supported or framed is not clear. It may have been by wooden



826. Church at Pergamus. From a Plan by Ed. Falkener, Esq. Scale 100 ft. to 1 in.

posts or marble pillars, and these would have either decayed or been removed. The two square calcidica or vestries, which in the Syrian churches terminate the side-aisles, are here placed externally like transepts, and beyond them are two circular buildings with domical roofs and square apses. What their use was is, however, doubtful. In fact, we know so little of the architecture of that age in Asia Minor that this building stands quite exceptionally; and very little use can be made of it, either as throwing light on other buildings, or as receiving illustration from their peculiarities. But seeing how much has been effected in this direction of late, we may fully hope that this state of isolation will not long remain.

One other church of the 4th century is known to exist—at Nisibin. It is a triple church, the central compartment being the tomb of the founder, the first Armenian bishop of the place. Though much ruined, it still retains the mouldings of its doorways and windows as perfect as when erected, the whole being of fine hard stone. These are identical in style with the buildings of Diocletian at Spalatro, and those of Constantine at Jerusalem; and as their date is well known, they will, when published, form a valuable contribution to the information we now possess regarding the architecture of this period.

CHURCHES WITH STONE ROOFS.

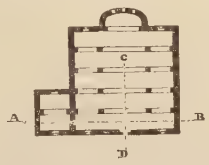
All the buildings above described—with the exception of the chapel at Babouda—have wooden roofs, as was the case generally with the basilicas and the temples of the classical age. The Romans, however, had built temples with aisles and vaulted them as early as the age of Augustus, as at Nîmes, for instance (woodcut No. 181), and they had roofed their largest basilicas and baths with intersecting vaults. We should not therefore feel surprised if the Christians sometimes attempted the same thing in their rectangular churches, more especially as the dome was always a favourite mode of roofing circular buildings; and the problem which the Byzantine architects of the day set themselves to solve was—as we shall presently see—how to fit a circular dome of masonry to a rectangular building.

One of the earliest examples of a stone-roofed church is that at Tafkha in the Hauran. It is probably of the age of Constantine, though as likely to be before his time as after it. Its date, however, is not of very great importance, as its existence does not prove that the form was adopted from choice by the Christians: the truth being that, in the country where it is found, wood was never used as a building material. All the buildings, both domestic and public, are composed wholly of stone—the only available material for the purpose which the country afforded. In consequence of this, when that tide of commercial prosperity which rose under the Roman rule flowed across the country from the

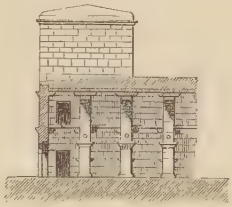
Euphrates valley to the Mediterranean, the inhabitants had recourse to a new mode of construction, which was practically a new style of architecture. This consisted in the employment of arches instead of beams. These were placed so near one another that flat stones could be laid side by side from arch to arch. Over these a layer of concrete was spread, and a roof was thus formed so indestructible that whole towns remain perfect to the present day, as originally constructed in the first centuries of the Christian era.[1]

827. Section on A B, Tafkha. From De Vogüé. Scale 50 ft. to 1 in.

One example must suffice to explain this curious mode of construction. The church at Tafkha is 50 ft. square, exclusive of the apse. It is spanned by four arches, 7 ft. 6 in. apart. On each side are galleries of flat slabs resting on brackets, as shewn in woodcut No. 829, which again are supported by smaller transverse arches. At one side is a tower, but this is roofed wholly by bracketing, as if the architect feared the thrust of the arch even at that height.

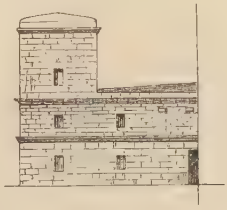


828. Plan, Tafkha. Scale 100 ft. to 1 in.



829. Section on C D, Tafkha.

The defect of this arrangement as an architectural expedient is the extreme frequency of the piers, 8 or 10 feet being the greatest distance practicable; but as a mechanical expedient it is singularly ingenious. More internal space is obtained with a less expenditure of material and danger from thrust than from any mode of construction—wholly of stone—that we are acquainted with; and with a little practice it might no doubt be much improved upon. The Indian architects, as we shall presently see, attempted the same thing, but set about it in a diametrically opposite way. They absolutely refused to employ the arch under any

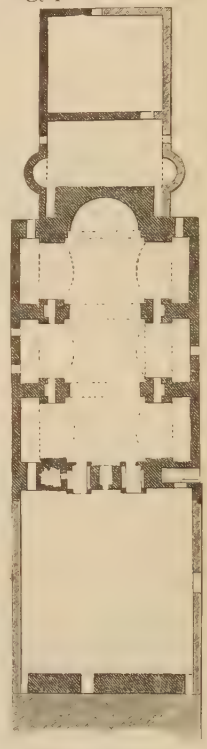


830. Half Front Elevation, Tafkha. Scale 50 ft. to 1 in.

[1] A great deal of very irrelevant matter has been written about these "giant cities of Bashan," as if their age were a matter of doubt. There is nothing in the Hauran which can by any possibility date before the time of Roman supremacy in the country. The very earliest now existing are probably subsequent to the destruction of Jerusalem by Titus.

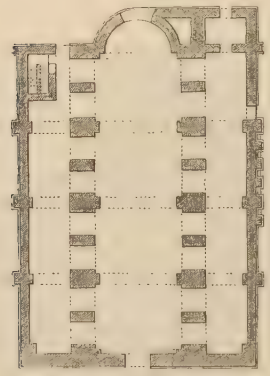
circumstances, but bracketed forward till the space to be covered was so limited that a single stone would reach across. By this means they were enabled to roof spaces 20 or 25 ft. span without arches, which is about the interval covered with their aid at Tafkha.[1]

Another circumstance which renders these Hauran examples interesting to the architectural student is that they contain no trace or reminiscence of wooden construction or adornment, so apparent in almost every other style. In Lycia it is absurdly so. In Egypt, in Greece, in India, in Persia—everywhere, in fact—we can trace back the principal form of decoration to a wooden original; here alone all is lithic, and it is probably the only example of the sort that the whole history of architecture affords.



832. Church at Hierapolis.
Scale 100 ft. to 1 in.
E. F. del.

If there are any churches in the Byzantine province of the age of which we are treating, whose naves are roofed by intersecting vaults, they have not yet been described in any accessible work; but great tunnel-vaults have been introduced into several with effect. One such is found at Hierapolis, on the borders of Phrygia (woodcut No. 831). It is divided by a bold range of piers into three aisles, the centre one having a clear width of 45 ft. 6 inches. The internal dimensions of the church are 177 ft. by 115. There are three great piers in the length, which carry bold transverse ribs so as to break the monotony of the vault, and have between them secondary arches, to carry the galleries.



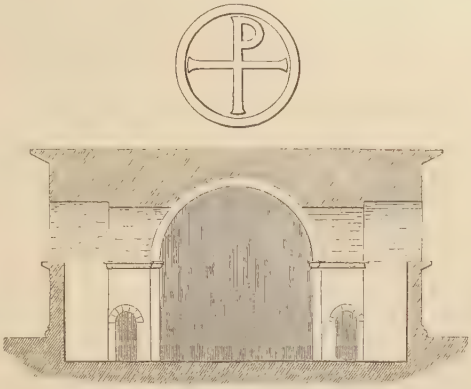
831. Great Church at Hierapolis.
Scale 100 ft. to 1 in.
E. Falkener del.

There is another church at the same place, the roof of which is of a somewhat more complicated form. The internal length, 140 ft, is divided into 3 by transverse arches; but its great peculiarity is that the vault is cut into by semicircular lunettes above the screen side-walls, and through these the light is introduced. This arrangement will be understood from the section (woodcut No. 833). Taken altogether, there is probably no other church of its age and

[1] The constructive dimensions of the porch at Chilumbrum (further on) are very similar to those of this church: both have flat stone roofs, but in the Indian, though a much more modern example, there is no arch.

class in which the vault is so pleasingly and artistically arranged, and in which the mode of introducing the light is so judicious and effective.

The age of these two last churches is not very well ascertained. They probably belong to the 5th, and are certainly not later than the 6th century; but, before we can speak with certainty on the subject, more examples must be brought to light and examined. From our present knowledge it can hardly be doubted that a sufficient number do exist to complete the chapter; and it is to be hoped they will be published, since a history of vaults in the East, independent of domes, is still a desideratum.



833. Section of Great Church at Hierapolis. Scale 50 ft. to 1 in. With monogram found on its walls. From a Drawing by E. Falkener.

CHAPTER III.

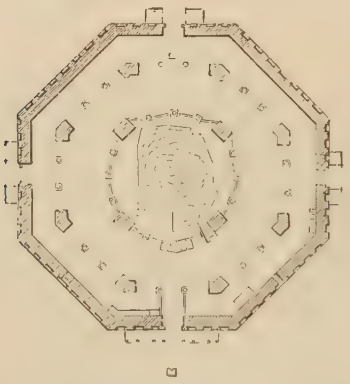
CIRCULAR OR DOMICAL BUILDINGS.

CONTENTS.

Circular Churches with wooden roofs and with true domes in Syria and Thessalonica — Churches of St. Sergius and Bacchus and Sta. Sophia, Constantinople — Domestic Architecture.

As before hinted, all the churches described in the last chapter might fairly be described as Romanesque, and, if our history stopped there, Eastern Romanesque would be the proper title to apply to them. At the time of their erection, however, a circular-domical style was being simultaneously elaborated, which not only gave a different character to the whole style, but eventually entirely superseded the Romanesque form, and became an original and truly Byzantine art.

As was the case with the rectangular buildings, those of the circular form may be divided into two distinct classes, those having wooden and those possessed of stone roofs. In this case, however, the proportions are reversed: the stone-roofed circular buildings being by far the most numerous; the wooden, on the contrary, exceptional.



834. Plan of the Dome of the Rock at Jerusalem. From Catherwood and Arundale. Scale 100 ft. to 1 in.

The typical example of the latter class is the church which Constantine erected over what he believed to be the Holy Sepulchre of Christ at Jerusalem. This building is now known to the Moslem world as the "Dome of the Rock" (Kubbet es Sakhra); by Western Christians it is called the "Mosque of Omar." In reality it is a nearly unaltered Christian building of the 4th century.[1] As such, its interest to the Christian, in marking what to him is one of the most sacred spots in the whole world, is, or

[1] For the arguments on which this assertion is based the reader is referred to the essay on 'The Ancient Topography of Jerusalem,' by the author, published in 1847, and to a work entitled 'The Holy Sepulchre and the Temple at Jerusalem,' Murray, 1865.

ought to be immense. It is equally important to the archæologist as being the earliest important church of its class erected wholly for Christian purposes; while it is of even more value to the architect from being one of the most beautiful buildings in the whole world. In dimensions it is surpassed by many, being an octagon of only 160 ft. diameter; and in solidity it is not to be compared with those wholly constructed of stone; but in richness of material there are few that can be compared with it. Its pillars are of marbles of the most precious kinds, and either belonged to the Temple of Herod or to that erected by Hadrian in honour of Jupiter on the same spot.[1] Its Mosaics are complete, though very much altered in design by its present possessors, who have added painted glass in the windows, of patterns more beautiful and colours more exquisite than any to be found in our Northern cathedrals. The design of this church is also singularly appropriate to the purposes for which it was erected. The Emperor's orders were, "That a House of Prayer should be erected round the Saviour's tomb on a scale of rich and lavish magnificence, which may surpass all others in beauty; and that the details of the building be such that the finest structure in any city of my empire may be excelled by this."[2] No orders were ever more literally or more suc-

835. Order of the Dome of the Rock. From a Drawing by Arundale.

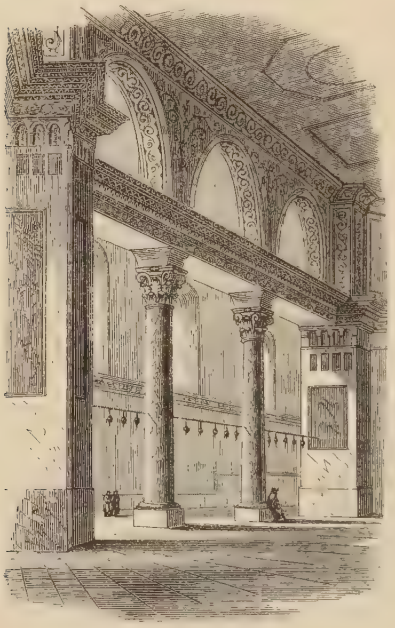
[1] It is difficult to suppose that such precious marbles lay about unappropriated till the end of the 7th century, long after the time when both Constantine and Justinian had been so busy erecting churches and other buildings in the holy city.

[2] Eusebius, 'Vita Constantini,' lib. iii. ch. xxv.

cessfully obeyed. The details still retain much of the classical purity and elegance, but combined with something of mediæval variety and richness; and the effect produced by the whole is quite unrivalled by any other known building of its class.

To the archæologist its principal interest lies in the number of transitional features it presents. The old trabeate style of the Romans was yielding unwillingly to the arcuate style that was so soon to supersede it. The former is still retained as an ornament; the latter —as in the palace of Diocletian at Spalatro (vol. i. p. 280)—was fast becoming the essential constructive expedient.

Though the shafts of the columns seem to have been generally borrowed from older buildings, the capitals were apparently carved for the nonce. They are nearly identical with those employed in the basilica at Bethlehem, and some of them still retain the cross on the abacus (woodcut No. 837). My impression is that most of them were so adorned, but the emblem is covered up with plaster. As a rule, the bases of the pillars are cubical blocks, such as were introduced at Spalatro by Diocletian, and continued fashionable down, at least, to the time of Justinian. They are always employed at Thessalonica (woodcut No. 814).



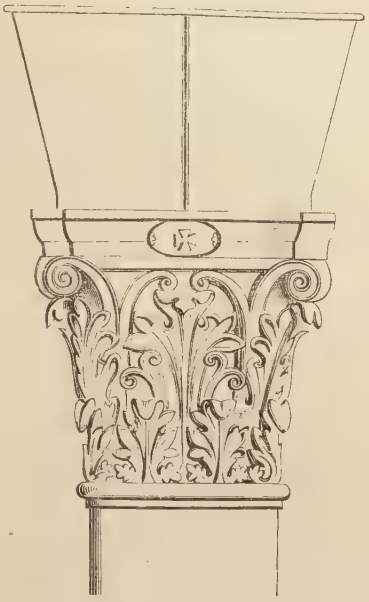
836. View in Aisle of Dome of Rock. From a Drawing by Catherwood.

If we were to form an opinion from the constructive details only, there would be no difficulty in assigning this building to an earlier age than even that of Constantine; but, taking both the mechanical and artistic details into consideration, it is impossible to place its erection before the age of that monarch, and it seems absolutely certain that the same features were never reproduced in any building erected after the accession of Justinian.

Constantine also erected a church at Antioch, which, from the description of it preserved by Eusebius, we learn was octagonal in plan, and probably similar but less rich and less important than that at Jerusalem.

On Mount Gerizim, on or near the site of the Samaritan temple, Justinian built an octagonal church, in plan somewhat similar to the

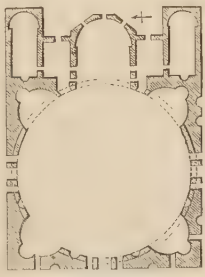
Dome of the Rock at Jerusalem, though exhibiting a considerable advance towards Christian arrangements; it has, however, been so completely destroyed that only its foundations can now be recovered.[1]



837. Capital in Dome of Rock. From De Vogüé.

At Bosrah in the Hauran there is a church of perfectly well-ascertained date—A.D. 512—which, when more completely illustrated, will throw considerable light on the steps by which a pagan temple was transformed into a Christian church.[2] It is a building externally square, but internally circular (woodcut, No. 838). The central space is 91 ft. in diameter, and was evidently covered with a wooden roof, but whether supported on eight piers, or covering the whole space in one span, is not clear. The great interest of the plan consists in its shewing the progress made in adapting this form to Christian purposes, during the 180 years which had elapsed since the Dome of the Rock was erected at Jerusalem. That has no apse or sanctuary, and is in every essential a Pagan building, in so far as any disposition of the plan is concerned; this is a Christian church in every essential respect.

It is to be hoped that further investigation may enable us to supply all the steps by which this transformation took place. Meanwhile one, and a very curious one, exists at Kelat Semân, in Northern Syria, and presents a combination of a circular with a rectangular church very common in Armenia and Georgia. As is generally the case there, they are very small in dimensions, the whole group only measuring 120 ft. by 73. When De Vogüé's work is complete, we shall probably know the purpose for which these buildings were erected. At present they look like a

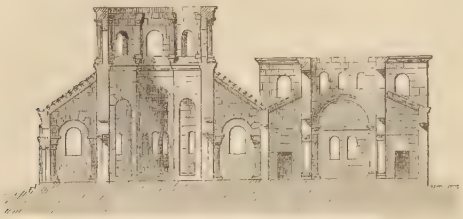


838. Cathedral at Bosrah. Scale 100 ft. to 1 in.

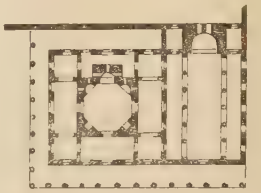
[1] A plan of the church, resulting from excavations and measurements very carefully made, was brought home by Capt. Wilson of the Palestine Exploration Fund.

[2] The plan here introduced was made by M. Rey. It is hoped that before De Vogüé's work is complete we shall know more about it.

tomb and its accompanying mortuary chapel, disposed as the Martyrium and Anastasis of Constantine were at Jerusalem: but on this and



839. Section of Double Church at Kelat Seman. From De Vogüé. Scale 50 ft. to 1 in.

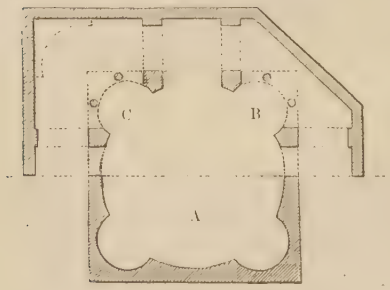


840. Plan. Kelat Seman. Scale 100 ft. to 1 in.

many other points we must wait for further information before speaking positively.

CHURCHES WITH DOMES.

Whether the Dome of the Pantheon at Rome (vol. i. p. 286) was erected in the time of the Antonines, as I believe, or before the time of Augustus, as many suppose, it is evident that the Romans had conquered the difficulties of domic construction long before the transference of the seat of power to Byzantium; the Pantheon being, up to this hour, the largest (single) dome ever constructed by the hand of man. Simple and grand as it undoubtedly is, it had several glaring defects in its design which the Byzantines set themselves to remedy. The first was that twice the necessary amount of materials was consumed in its construction. The second, that the mode of lighting by a hole in the roof, which also admitted the rain and the snow, was most objectionable before the invention of glass. The third, that a simply circular plan is always unmeaning and inconvenient. A fourth, that a circular building can hardly, by any contrivance, be made to fit on to any other buildings or apartments.

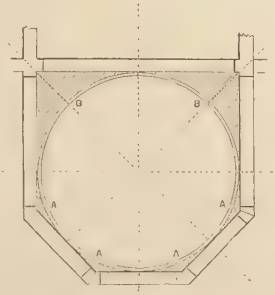


841. Diagram of Byzantine Arrangement.

In the Minerva Medica (woodcut No. 219) great efforts were made but not quite successfully, to remedy these defects. The building would not fit on to any others, and, though an improvement on the design of the Pantheon, was still far from perfect.

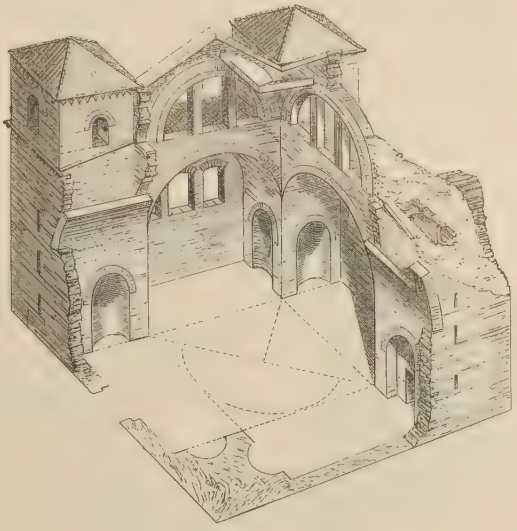
The first step the Byzantines made was to enclose the circle in a square, as at A (woodcut No. 841), and then to insert a great niche in each of the angles. By this means, the thickness of the outer walls was very considerably reduced, and the whole square was practically

utilized. A second step was to cut away as much as posssible of the outer wall, leaving only what was requisite to support the dome, and enclosing the whole in an octagon, as at B, or a square, as at C. When this was done, it is evident that a church of any required dimensions could be constructed without serious effort, and great variety of perspective obtained without affectation. The octagonal arrangement in the last woodcut was that adopted at St. Vitale at Ravenna; the square, that which produced the church of SS. Sergius and Bacchus at Constantinople. So long as the octagonal arrangement was adhered to, no difficulty of construction occurred; the difference between the circle and octagon, represented by the shaded parts at A in the diagram (woodcut No. 842), is so small, that it is easily got over in construction, but such a polygon has many of the architectural defects of the circle, and the triumph of the Byzantine architects was complete, when, by the introduction of pendentives—represented by the shaded parts at B (woodcut No. 842), they were enabled to place the circular dome on a square apartment.



842. Diagram of Byzantine Pendentives.

Constructively it would probably have been easier to roof the space by an intersecting vault. Even if of 100 or 150 ft. span, it could without difficulty have been effected by the arrangement shewn in the annexed diagram (woodcut No. 843).

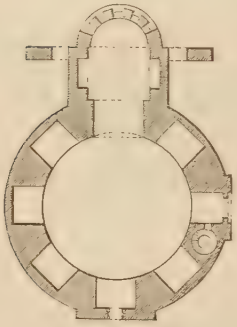


843. Diagram of Vaulting. From Viollet le Duc, 'Entretiens d'Architecture.'

The difference between the intersecting vault and the dome, as applied in this instance, is perhaps the most striking contrast the history of architecture affords, between mechanical and ornamental construction. Both are capable of being ornamented to the same extent, and in the same manner; but the difference of form rendered the circular dome a

beautiful object in itself, wholly irrespective of ornament, while nothing in the architect's repertory could redeem the mechanical harshness of a single vault, when applied on the scale requisite to roof an apartment of any considerable dimensions. Altogether, the effect would have been architecturally so infinitely inferior, that we cannot but feel grateful to the Byzantines that they persevered in spite of all mechanical temptations till they reached the wonderful perfection of the dome of Sta. Sophia.

Among the earliest domical churches found in the East, is that of St. George at Thessalonica. It is, also perhaps, the finest example of its class, belonging strictly to that group which has been designated above as the Eastern Romanesque.



844. Plan of St. George at Thessalonica. Scale 100 ft. to 1 in.

As will be seen from the plan, it is a circular apartment, 79 ft. in diameter, surrounded by walls 20 ft. in thickness, into which are cut seven great niches; two apparently serving as entrances, opposite one of which is a bema or presbytery of considerable importance and purely Christian form. The dome is hemispherical, pierced at its base by eight semicircular lunettes, and externally covered and concealed by a wooden roof. This form of roof is first found in the West at Nocera dei Pagani (vol. i. p. 385), but the dome there is only half the diameter of this one, and of a very different form and construction. The dome of St. George's retains its internal decorations, which are among the earliest as well as the most interesting Christian mosaics in existence.[1] The architecture

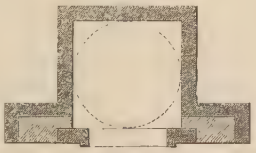
845. Section of Church of St. George at Thessalonica. From Texier and Pullan. Scale 50 ft. to 1 in.

[1] These are all given in colours in Texier and Pullan's beautiful work on Byzantine architecture, from which all the particulars regarding this church are taken.

presented in them bears about the same relation to that in the Pompeiian frescos, which the Jacobæan does to classical architecture, and, mixed with Christian symbols and representations of Christian saints, makes up a most interesting example of early Christian decoration.

846. View of Church of St. George at Thessalonica. From Texier and Pullan.

No inscriptions or historical indications exist, from which the date of the church can be fixed. We are safe, however, in asserting that it was erected by Christians, for Christian purposes, subsequently to the age of Constantine. If we assume the year 400 as an approximate date we shall probably not err to any great extent, though the real date may be somewhat later.



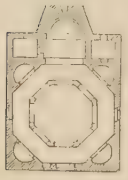
847. Plan of Chapel at Kalybé. No scale.

How early a true Byzantine form of arrangement may have been introduced, we have no means of knowing; but as early as the year 285—according to De Vogüé—we have a little chapel at Kalybé (in Syria), which contains all the elements of the new style. It is square in plan, with a circular dome in its centre for a roof. The wing walls, which extend the façade, are

curious, but not singular. One other example, at least, is found in the Hauran, at Chagga, and there may be many more.

848. View of Oratory at Kalybé. From De Vogüé.

Still, in the Hauran they never seem quite to have fallen into the true Byzantine system of construction, but preferred one less mechanically difficult, even at the expense of crowding the floor with piers. In the church at Ezra, for instance, the internal octagon is reduced to a figure of sixteen sides, before it is attempted to put a dome upon it, and all thought of beauty of form, either internally or externally, is abandoned in order to obtain mechanical stability—although the dome is under 20 ft. in diameter.



849. Plan of Church at Ezra. Scale 100 ft. to 1 in.

850. Section of Church at Ezra. Scale 50 ft. to 1 in.

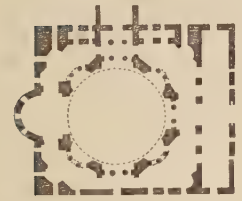
As the date of this church is perfectly ascertained (510) it forms a curious landmark in the style just anterior to the great efforts Justinian was about to make, and which forced it so suddenly into its greatest, though a short-lived, degree of perfection.

CONSTANTINOPLE.

As before mentioned, all the churches of the capital which were erected before the age of Justinian, have perished, with the one exception of that of St. John Studios mentioned above (page 294). This

may in part be owing to the hurried manner in which they were constructed, and the great quantity of wood consequently employed, which might have risked their destruction anywhere. It is, however, the case that Byzantium possessed every conceivable title to be chosen as the capital of the Empire, except the possession of a good building-stone, or even apparently any suitable material for making good bricks. Wood seems in all times to have been the material most readily obtained and most extensively used for building purposes, and hence the continual recurrence of fires, from before the time of Justinian down to the present day. That monarch was the first who fairly met the difficulty; the two churches erected during his reign which now exist, are constructed wholly without wood or combustible materials of any sort—and hence their preservation.

The earliest of these two, popularly known as the "Kutchuk Agìa Sophia," or lesser Sta. Sophia, was originally a double church, or more properly speaking, two churches placed side by side, precisely in the same manner as the two at Kelat Semân (woodcut No. 839). The basilica was dedicated to the Apostles Peter and Paul; the domical church, appropriately, to the Martyrs Sergius and Bacchus. The



851. Church of Sergius and Bacchus. Scale 100 ft. to 1 in.

852. Section of Church of Sergius and Bacchus. From A. Lenoir, 'Architecture Monastique.' Scale 50 ft. to 1 in.

former has entirely disappeared, from which I would infer that it was constructed with pillars and a wooden roof.[1] The latter remains very nearly intact. The frescos and mosaics have, indeed, disappeared from the body of the church, hidden, it is to be hoped, under the mass of white which covers its walls—in the narthex they can still be distinguished.

The existing church is nearly square in plan, being 109 ft. by 92 over all, exclusive of the apse, and covering only about 10,000 sq. ft. It has consequently no pretensions to magnificence on the score of dimensions, but is singularly elegant in design and proportion. Internally, the arrangement of the piers of the dome, of the galleries, and of the pillars

[1] A restoration of the church from Procopius' description, 'De Ædificiis,' lib. i. ch. iv., will be found in Hübsch, 'Altchristliche Baukunst,' pls. xxxii. and xxxiii. I differ; but the data are very insufficient.

which support them, are almost identical with those of St. Vitale at Ravenna, but the proportions of the Eastern example are better, being 66 ft. in height by 52 in diameter, while the other, with the same diameter, is nearly 20 ft. higher, and consequently too tall to be pleasing. The great difference, however, is, that while St. Vitale is enclosed in an octagon, St. Sergius is in a square; which gives the latter an immense advantage over its rival, not only in effect but also in accommodation.

853. Capital from Church of Sergius and Bacchus. From Lenoir.

854. Entablature from Church of Sergius and Bacchus. From Lenoir.

The details of this church are generally well designed for the purposes to which they are applied. There is a certain reminiscence of classical feeling in the mouldings and foliage—in the latter, however, very faint. The architrave block (No. 853) had by this time almost superseded the capital, and what was once a classical entablature retained very little of its pristine form (No. 854), and indeed was used constructively only, for the support of a gallery, or some such mechanical requirement. The arch had entirely superseded it as an ornamental feature long before the age of Justinian.

Sta. Sophia.

Although the building just described, and others that might be quoted, probably contain the germs of all that is found in Sta. Sophia, they are on so small a scale that it is startling to find Justinian attempting an edifice so grand, and so daring in construction, without more experience than he appears to have obtained. Indeed so exceptional does this great structure appear, with our present knowledge, that we might almost feel inclined at first sight to look upon it as the immediate creation of the individual genius of its architect, Anthemius of Thralles; but there can be little doubt that if a greater number of contemporary examples existed we should be able to trace back every feature of the design to its origin. The scale, however, on which it was carried out was certainly original, and required great boldness on the part of the architect to venture upon such a piece of magnificence. At all events, the celebrated boast of its founder on contemplating his finished work was more than justified. When

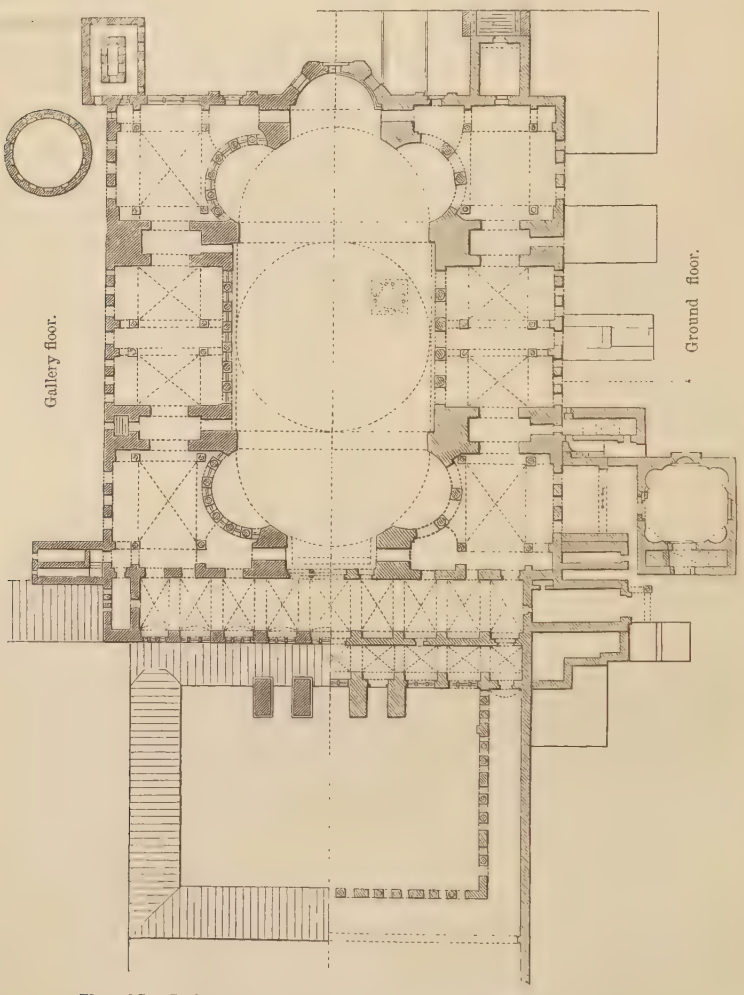
Justinian exclaimed "I have surpassed thee, O Solomon," he took an exaggerated view of the work of his predecessor, and did not realize the extent to which his building excelled the Jewish temple. The latter was only equal to a small church with a wooden roof supported by wooden posts, and covering some 7200 sq. ft. Sta. Sophia covers ten times that area, is built of durable materials throughout, and far more finely ornamented than the temple of the Jews ever could have been. But Justinian did more than accomplish this easy victory. Neither the Pantheon nor any of the vaulted halls at Rome equal the nave of St. Sophia in extent, or in cleverness of construction, or in beauty of design. Nor was there anything erected during the 10 centuries which elapsed from the transference of the capital to Byzantium till the building of the great mediæval cathedrals which can be compared with it. Indeed it remains even now an open question whether a Christian church exists anywhere, of any age, whose interior is so beautiful as that of this marvellous creation of old Byzantine art.

The original church of Sta. Sophia which had been erected by Constantine was, it seems, burnt to the ground in the fifth year of Justinian, A.D. 532, when he determined to re-erect it on the same spot with more magnificence and with less combustible materials. So rapidly were the works pushed forward, that in six years it was ready for dedication, A.D. 537. Twenty years afterwards a portion of the dome fell down in consequence of an earthquake; but this damage was repaired, and the church re-dedicated, 563, in the form, probably very nearly, in which we now find it.

In plan it closely approaches an exact square, being 235 ft. north and south by 250 east and west, exclusive of the narthex and apse. The narthex itself is a splendid hall, 205 ft. in length internally, by 26 ft. wide, and two storeys in height. Beyond this there is an exo-narthex which runs round the whole of the outer court, but this hardly seems to be part of the original design. Altogether, the building, without this or any adjuncts which may be after-thoughts, covers about 70,000 sq. ft., or nearly the average area of a mediæval cathedral of the first class.

Externally the building (woodcut No. 856) possesses little architectural beauty beyond what is due to its mass and the varied outline arising from the mechanical contrivances necessary to resist the thrust of its internal construction. It may be that, like the early Christian basilicas at Rome, it was purposely left plain, to distinguish it from the external adornment of Heathen temples, or it may have been intended to revêt it with marble, and add the external ornament afterwards. Before we became acquainted with the ornamented exteriors of Syrian churches, the former theory would seem the more plausible, though it can hardly now be sustained; and when we consider that the second dedication only took place the year before Justinian's death, and

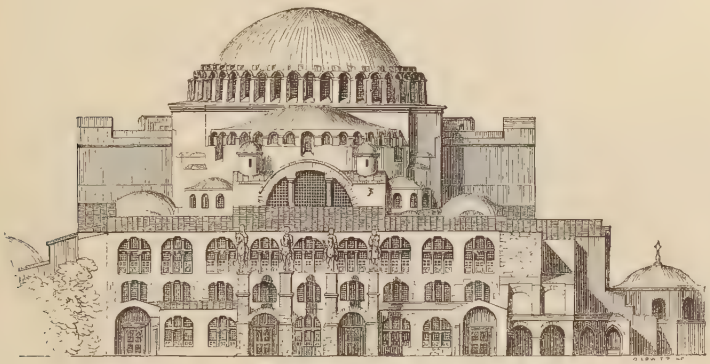
how soon troublous times followed, we may fairly assume that what we now see is only an incomplete design. Whatever may be the case with the exterior, all the internal arrangements are complete, and perfect both from a mechanical and an artistic point of view. In such a design as this, the first requirement was to obtain four perfectly



855. Plan of Sta. Sophia. Upper Storey and Ground Floor. Scale 100 ft. to 1 inch.

stable arches, on which the dome might rest. The great difficulty was with the two arches running transversely north and south. These are as nearly as may be 100 ft. span and 120 high to the crown, and 10 ft. on the face. Each of them has a mass of masonry behind it for an abutment, 75 ft. long by 25 ft. wide, only partially pierced by arches

on the ground and gallery floor; and as the mass might have been carried to any height, it ought, if properly constructed, to have sufficed for an arch very much wider and more heavily weighted than that which it supports. Yet the southern wall is considerably bulged, and the whole of that side thrown out of the perpendicular. This probably was the effect of the earthquake which caused the fall of the dome in 559, since no further settlement seems to have taken place. The longitudinal arches presented no difficulty. The distance between the solid parts of the piers was 75 ft. and this was filled up with a screen wall supporting the inner side of the arch; so, unless that was crushed, the whole was perfectly stable. Pendentives between these four arches ought not to have presented any difficulties. It would, however, have been better, from an architectural point of view, if they had been

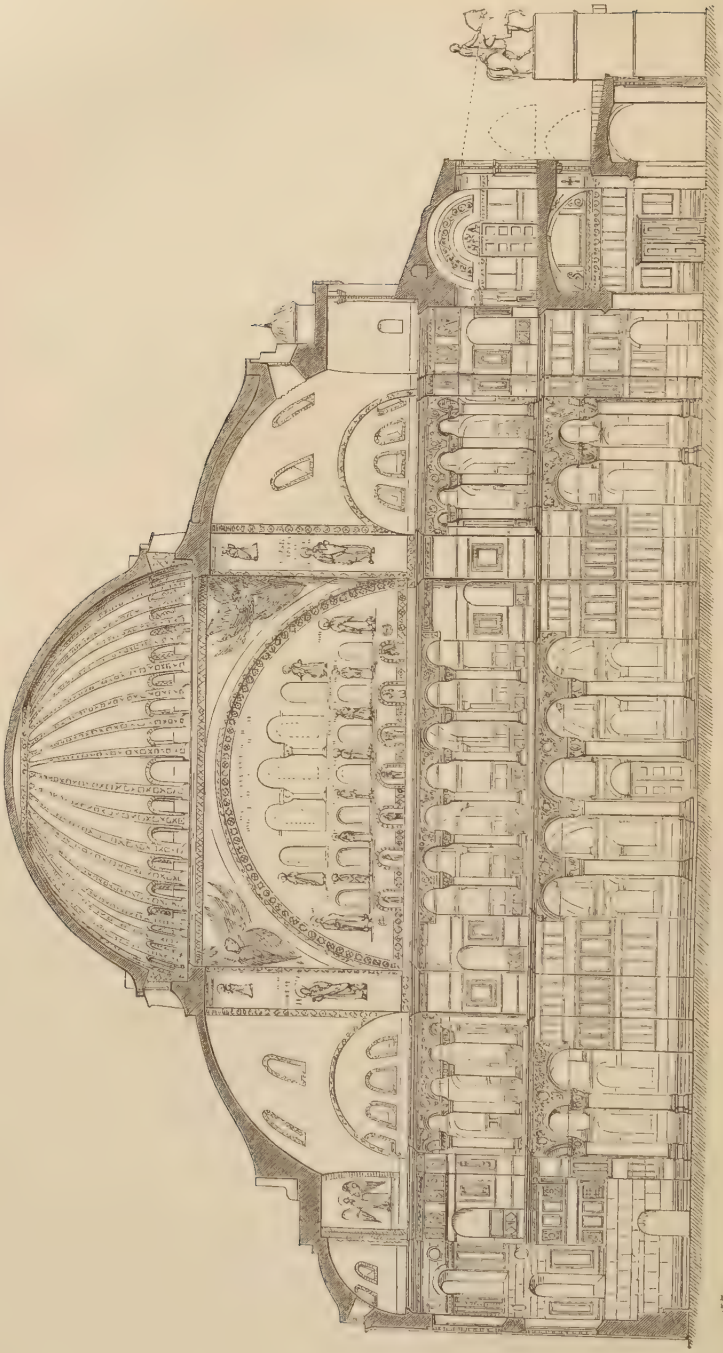


856. Elevation Façade of Sta. Sophia at Constantinople. From Salzenberg. Scale 100 ft. to 1 in.

carried further up and forward, so as to hang a weight inside the dome, to counteract the outward thrust, as was afterwards so successfully practised at Beejapore.[1] As it is, the dome rests rather on the outer edge of the system, without sufficient space for abutment. In itself the dome is very little lower than a hemisphere, being 107 ft. across by 46 ft. in height. Externally, it would have been better if higher; for internal effect this is sufficient. Its base is pierced by forty small windows, so small and so low as not to interfere in any way with the apparent construction, but affording an ample supply of light —in that climate at least—to render every part of the dome bright and cheerful.

Beyond the great dome, east and west, are two semi-domes of a diameter equal to that of the great dome, and these are again cut into by two smaller domes, so that the building, instead of being a Greek cross, as usually asserted, is only 100 ft. across in the centre and 125 ft.

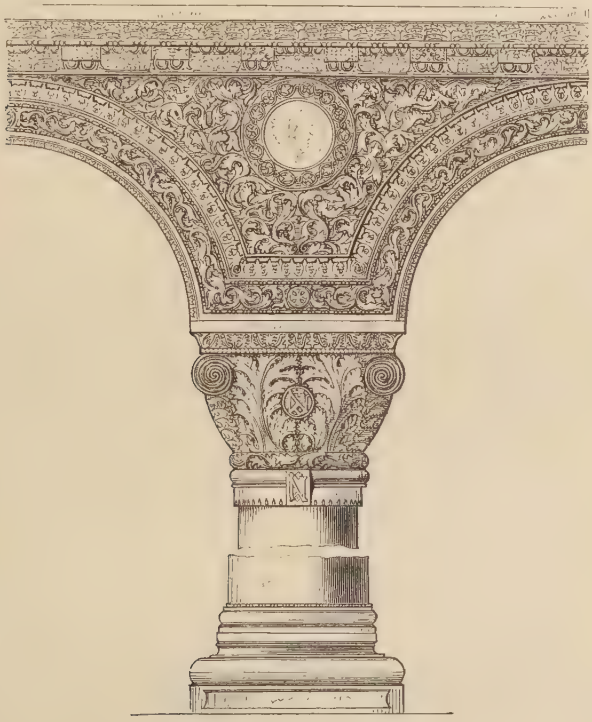
[1] See below, in chapter on Indian Saracenic Architecture.



Section of Sta. Sophia, from E. to W. Scale 100 ft. to 1 in.

357.

wide beyond the central space each way. There is a little awkwardness in the way in which the smaller semi-domes cut into the larger, and the three windows of the latter are unconnected with any other part of the design, which is unpleasing, but might easily be remedied in a second attempt. These very irregularities, however, give a variety and appropriateness to the design which has probably never been surpassed. A single dome of the area of the central and two semi-domes, would not have appeared nearly so large, and would have overpowered everything else in the building. As it is, the eye wanders upwards

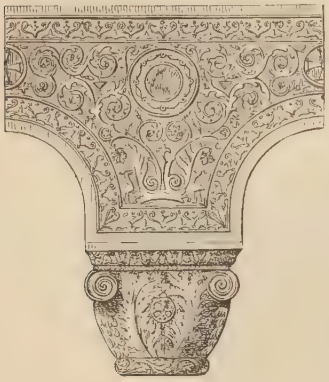


858. Lower Order of Sta. Sophia. From Salzenberg.

from the large arcades of the ground floor to the smaller arches of the galleries, and thence to the smaller semi-domes. These lead the eye on to the larger, and the whole culminates in the great central roof. Nothing, probably, so artistic has been done on the same scale before or since. In these arrangements Sta. Sophia seems to stand alone.

If, however, the proportions of this church are admirable, the details are equally so. All the pillars are of porphyry, verd antique, or marbles of the most precious kinds. The capitals are among the most admirable specimens of the style. It will be remembered that the governing line of a classical Corinthian capital is a hollow curve, to

which acanthus-leaves or other projecting ornaments were applied. When the columns were close together, and had only a beam to support, this form of capital was sufficient; but when employed to carry the constructive arches of the fabric its weakness became instantly apparent. Long before Justinian's time, the tendency became apparent to reverse the curve and to incise the ornament. In Sta. Sophia the transition is complete; the capitals are as full as elegance would allow, and all the surfaces are flat, with ornaments relieved by incision. In the lower tier of arches (woodcut No. 858) this is boldly and beautifully done, the marble being left to tell its own story. In the upper tier, further removed from the eye, the interstices are filled in with black marble, so as to ensure the desired effect.



859. Upper Order of St. Sophia. From Salzenberg.

All the flat surfaces are covered with a mosaic of marble slabs of the most varied patterns and beautiful colours; the domes, roofs, and curved surfaces, with a gold-grounded mosaic relieved by figures or architectural devices. Though much of the mosaic is now concealed, enough is left to enable the effect of the whole to be judged of, and it certainly is wonderfully grand and pleasing. The one thing wanting is painted glass, like that which adorns the Dome of the Rock at Jerusalem, to render this building as solemnly impressive as it is overpoweringly beautiful.

Sta. Sophia is so essentially different from the greater number of churches, that it is extremely difficult to institute a comparison between them. With regard to external effect, few Gothic cathedrals do not excel it; but whether by accident or by the inherent necessity of the style is by no means so clear. In so far as the interior is concerned, no Gothic architect ever rose to the conception of a hall 100 ft. wide, 250 ft. in length, and 180 ft. high, and none ever disposed each part more artistically to obtain the effect he desired to produce. Where the Byzantine architect might have profited from the experience of his Gothic brother is in the use of mouldings. The one defect in the decoration of Sta. Sophia is that it depends too much on colour. It would have been better if the pier-arches, the window-frames, and the string-courses generally had been more strongly accentuated by moulding and panellings, but this is a slight defect among so many beauties.

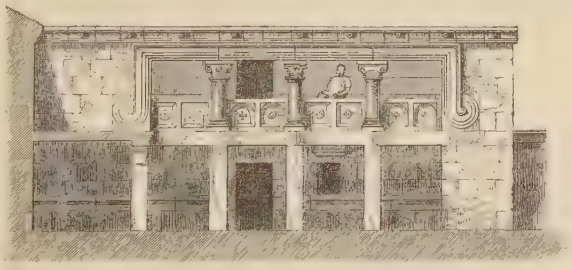
A comparison with the great Renaissance cathedrals is more easy, but results equally favourably to the Byzantine example. Two of

these domes are larger—St. Peter's at Rome and Sta. Maria at Florence being each 126 ft.—St. Paul's, London, is within a foot of the same diameter (108); all the rest are smaller.[1] This, however, is of less consequence than the fact that they are all adjuncts to the design of the church. None of them are integral or supported by the rest of the design, and all tend to dwarf the buildings they are attached to, rather than to heighten the general effect. With scarcely an exception also all the Renaissance cathedrals employ internally great sprawling pillars and pilasters, designed for external use by the Romans, which not only diminish the apparent size of the building but produce an effect of unreality and sham utterly fatal to true art.

In fact, turn it as we will, and compare it as we may with any other buildings of its class, the verdict seems inevitable—that Sta. Sophia—(internally at least—for we may omit the consideration of the exterior, as unfinished) is the most perfect and most beautiful church which has yet been erected by any Christian people. When its furniture was complete the verdict would have been still more strongly in its favour; but that has so generally been destroyed or removed in all buildings, that our remarks have been throughout confined to what is purely architectural in the works described in these pages.

Domestic Architecture.

When the Count De Vogüé's book is complete we shall probably be in a position to realise the civil and domestic architecture of Syria in the 5th and 6th centuries with a completeness that, a very short time ago, would have been thought impossible. Owing to the fact that every part of the buildings in the Hauran was in stone, and that they were suddenly deserted on the Mahometan conquest, never, apparently, to be reoccupied, many of the houses remain perfectly entire to the present day, and in Northern Syria only the roofs are gone.



860. Elevation of House at Rifadi. From De Vogüé. Scale 20 ft. to 1 in.

These buildings are so numerous and so interesting that on some future occasion it may be worth while to illustrate them more fully.

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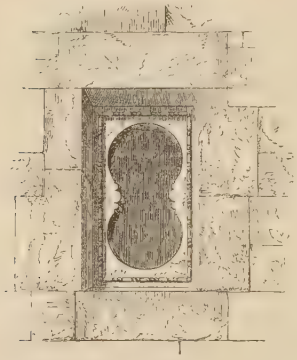
[1] The Renaissance dome which fits best to the church on which it is placed is that of Sta. Maria at Florence; but, strange to say, it is neither the one originally designed for the place, nor probably at all like it. All the others were erected as designed by the architects who built the churches, and none fit so well.

At present one example must suffice to explain the class of houses. Generally they seem to have been two storeys in height, adorned with verandahs supported by stone columns, the upper having a solid screen-fence of stone about 3 ft. 6 in. high, intended apparently as much to secure privacy to the sleeping apartments of the house as protection against falling out. In some instances the lower storey is twice the height of the upper, and contained the state apartments of the house. In others, as in that at Rifadi (woodcut No. 860) it seems to have been intended for the offices.

In some instances one is startled to find details which we are accustomed to associate with much more modern dates; as, for instance, this window (woodcut No. 861), from the palace at Chagga, which there seems no reason whatever for doubting belongs to the 3rd century—anterior to the time of Constantine! It looks more like the vagary of a French architect of the age of Francis I.



861. Window at Chagga. From De Vogüé.

The sepulchral remains of Syria, both structural and rock-cut, seem nearly as numerous as the dwellings of the living, and are full of interest, not only from their frequently bearing dates, but from their presenting new types of tombs, or old types in such new forms as scarcely to be recognizable. Till, however, the illustrations are accompanied by some explanatory text it is scarcely safe to say much about them.

With our present limits it is only possible to characterize generally the main features of the Byzantine style, and to indicate the sources from which further information may be obtained. In the present instance it is satisfactory to find that ample materials now exist for filling up a framework which ten years ago was almost entirely a blank. Any one who will master the works of De Vogüé, or Texier, or Salzenberg, and other minor publications, may easily acquire a fair knowledge of the older Byzantine style of architecture. Once it is grasped it will probably be acknowledged that there are few more interesting chapters than that which explains how a perfect Christian Church like that of Sta. Sophia was elaborated out of the classical edifices of ancient Rome. It will also probably be found that there are few more instructive lessons to be learnt from the study of architectural history than the tracing of the various contrivances which were so earnestly employed, during the two first centuries of Christian supremacy, in attaining this result.

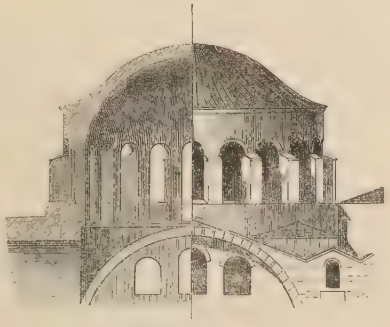
CHAPTER IV.

NEO-BYZANTINE STYLE.

CONTENTS.

Sta. Irene, Constantinople — Churches at Ancyra, Trabala, and Constantinople — Churches at Salonica and in Greece — Domestic Architecture.

Santa Sophia at Constantinople was not only the grandest and most perfect creation of the old school of Byzantine art, but it was also the last. It seems as if the creative power of the empire had exhausted itself in that great effort, and for long after it, the history is a blank. We always knew that the two centuries which elapsed between the ages of Constantine and Justinian were ages of great architectural activity. We knew that hundreds, it may be thousands, of churches were erected during that period. It might have been that they had all perished, and that thus the thread of the narrative was lost. Fortunately, we have discovered that this is not the case, and we can now trace almost all the steps by which the quasi-classical Dome of the Rock at Jerusalem was converted into the perfect Byzantine church at Constantinople. With the two subsequent centuries, however, the case seems widely different. Shortly after Justinian's death, the troubles of the Empire, the Persian wars of Heraclius, and, more than either, the rise of the Mahometan power in the East, and of the Roman pontificate under Gregory the Great in the West—all tended so to disdisturb and depress the Byzantine kingdom as to leave little leisure and less means for the exercise of architectural magnificence. It is therefore hardly probable that we shall ever be in a position to illustrate the 7th and 8th centuries as we now know we can the 5th and 6th. Still, building must have gone on, because when we again meet the style, it is changed. One of the very earliest churches of the new school is that of Sta. Irene at Constantinople, rebuilt as we now find it by Leo the Isaurian (A.D. 718–740). It differs in several essential



862. Half Section, half Elevation, of Dome of Sta. Irene at Constantinople.

particulars from the old style, and contains the germ of much that we find frequently repeated. The change is not so great as might have taken place in two centuries of building activity, but it is considerable. In this church we find, apparently for the first time in a complete form, the new mode of introducing the light to the dome through a perpendicular drum, which afterwards became so universal that it serves to fix the age of a building in the East with almost as much certainty as the presence of a pointed arch does that of a building in the West. As this invention is so important, it may be well to recapitulate the steps by which it was arrived at.

The oldest mode of lighting a dome is practised in the Pantheon (woodcut No. 183), by simply leaving out the central portion. Artistically and mechanically nothing could be better, but before the invention of glass it was intolerably inconvenient whenever much rain or snow fell. A change therefore was necessary, and it is found in the tomb or temple of Marcellus, built during the reign of Constantine on the Via Prenestina at Rome. It consists simply of boring four circular holes through the dome a little above its springing. The next step is seen at Thessalonica in the church of St. George (woodcut No. 845). There eight semi-circular lunettes are pierced in the dome, at its springing, and answer the purpose very perfectly. The system culminated in Sta. Sophia, where forty windows introduce a flood of light without its ever falling on the eyes of the spectator. After this it seems to have been considered desirable not to break the hemisphere of the dome, but to place the windows in a perpendicular circular rim of masonry—called the drum—and to introduce the light always through that. Externally there can be no doubt but that this was an improvement: it gave height and dignity to the dome in small churches, where, without this elevation, the feature would have been lost. Internally, however, the advantage is problematical: the separation of the dome from its pendentives destroyed the continuity of the roof, and introduced the stilted effect so objectionable in Renaissance domes. In the Neo-Byzantine churches the dome became practically a skylight on the roof, the drum increasing in height and the dome diminishing in dignity as the style progressed. As all the churches are small, the feature is unobjectionable; but in larger edifices it would have been found difficult to construct it, and the artistic result would hardly have been pleasing, even had this difficulty been got over. Be this as it may, its value as a chronometric landmark is undoubted.

As a rule it may generally be asserted that, in all Christian domes erected during the old Byzantine period, the light is introduced by openings in the dome itself. After that time, the light is as generally admitted through windows in the drum, the dome itself being only in the rarest possible instances cut into.

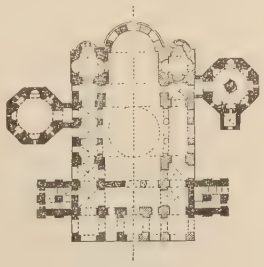
If these views are correct, the church of St. Clement at Ancyra is a transitional specimen subsequent to Sta. Sophia, because the dome is raised timidly (woodcut No. 863) on a low drum pierced with four small windows; but it is anterior to Sta. Irene because the dome is still pierced with eight larger windows, after the manner of Sta Sophia and the older churches. All the details of its architecture, in so far as they can be made out, bear out this description. They are further removed from the classical type than the churches of Justinian, and the whole plan (woodcut No. 864) is more that which the Greek church afterwards took than any of the early churches shew. Its greatest defect—though the one most generally inherent in the style—is in its dimensions. It is only 64 ft. long, over all externally, by 58 ft. wide. Yet this is a fair average size of a Greek church of that age.

863. St. Clement, Ancyra. From a Drawing by Ed. Falkener.

864. Church of St. Clement, Ancyra. Scale 100 ft to 1 in.

Another church, very similar, is found at Myra, dedicated to St. Nicholas. It exceeds that of St. Clement in size, and has a double narthex considerably larger in proportion, but so ruined that it is difficult to make out its plan, or to ascertain whether it is a part of the original structure, or a subsequent addition. The cupola is raised on a drum, and altogether the church has the appearance of being much more modern than that at Ancyra.

A third church of the same class, and better preserved, is found at Trabala in Lycia. It is of the same type as St. Clement, and similar in its arrangements to Sta. Sophia, except in the omission of the semi-domes, which seem never to have been adopted in the provinces, and indeed may be said to be peculiar to the metropolitan church. Notwithstanding the beauty of that feature, it appears to have remained dormant till revived by the Turks in Constantinople, and there alone.



865. Church at Trabala. Scale 100 ft. to 1 in.

In this example there are two detached octagonal buildings, either tombs or sacristies; a form which, except in large detached buildings, does not seem to have been so common as the circular, till after the time of Justinian.

Returning to the capital, we find one other remarkable peculiarity of the Neo-Byzantine style in the attempt to allow the external

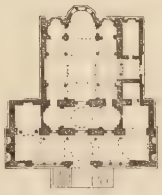
surface of an ordinary tunnel-vault to retain its form without any ridge whatever. It can hardly be doubted that this is artistically a mistake. With domes it was early felt to be so, and consequently we always find a flower or pinnacle in iron, or some such ornament, marking the centre. In this the Saracenic architects were especially successful—all their domes possess a central ornament sufficient to relieve them, and generally of the most beautiful proportions. With the extrados of a circular vault, however, it is even worse than with a dome. A roof is felt to be a contrivance to keep off the rain. It may be more or less sloping, according to the materials of which it is constructed; but to make one part of each ridge sloping, and the central portion flat, is a discord that offends the eye, besides looking weak and unmeaning. A pointed arch would avoid the evil, but a reverse or ogee curve is perhaps the most pleasing. In the Neo-Byzantine age, however, between the 8th and the 12th centuries, the eye seems to have got accustomed to it. It is common in the East, especially at Constantinople and at Venice. In St. Mark's and elsewhere it became so familiar a form that it was copied and continued by the Renaissance architects even to the end of the 16th century.

One of the best illustrations of these peculiarities is the church of Moné tés Koras at Constantinople, now converted into a mosque and called Kahira Jamissi. The older part of it seems to belong to the 11th century, the side-aisles to the 12th, and though small it illustrates the style perfectly. The porch consists of five arches covered with an intersecting vault, visible both externally and internally. The two last bays are covered with cupolas which still retain their mosaics internally, and those of singular beauty and brilliancy, though, owing to the constructive defects of the intermediate parts, the wet has leaked through, and the mosaics have mostly peeled off. Externally the front is ornamented with courses of stones of different colours, and even in its ruined state is effective and picturesque. Its principal interest is that it shews what the matrix was of the contemporary church of St. Mark at Venice. Subsequent additions have much modified the external appearance of St. Mark, but there can be very little doubt that originally it was intended to be very like the façade shown in woodcut No. 866.

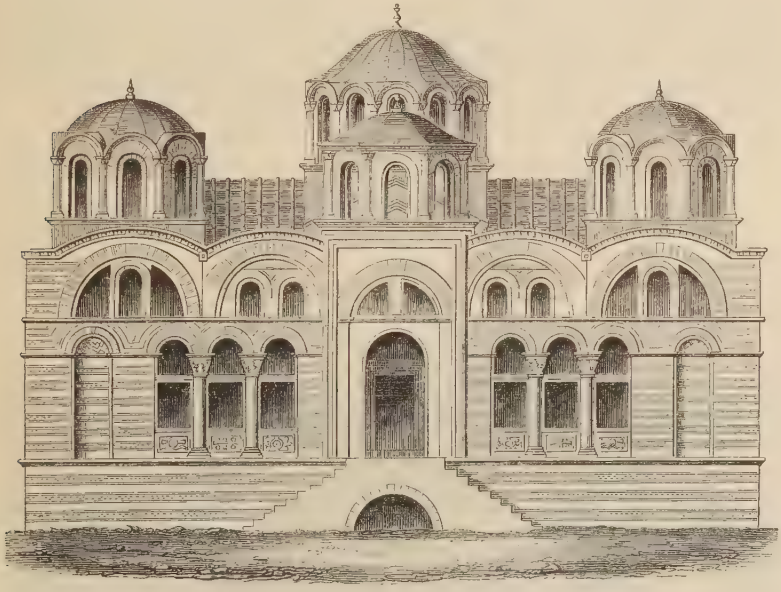
866. Church of Moné tés Koras. From Lenoir. No scale.

Not far from Moné tés Koras there are two other churches of the same class and of about the same age. One, the Pantokrator, has been added to at various times so as to cover a large space of ground, but it consists consequently of small and ill-assorted parts. It retains, however, a good deal of its marble pavements and other features of interest. The other, known as the Fetije Jamissi, is smaller and more complete, and possesses some mosaics of considerable beauty.

The best example of its class, however, in Constantinople is that known as the Theotokos. Like those just mentioned it is very small, the church itself being only 37 ft. by 45, and, though its double narthex and lateral adjuncts add considerably to its dimensions, it is still only a very small church. Some parts of it are as old as the 9th or 10th century, but the façade represented in woodcut No. 868 is certainly not older than the 12th century. Taking it altogether, it is perhaps the most complete and elegant church of its class now known to exist in or near the capital, and many of its details are of great beauty and perfection.



867. Plan of the Theotokos. Scale 100 ft. to 1 in.



868. Elevation of Church of Theotokos. From Lenoir, 'Architecture Monastique.' Enlarged scale.

It seems scarcely possible to suppose that the meagre half dozen of small churches just enumerated are all that were erected in the capital between the death of Justinian and the fall of the city. Yet there is no evidence that the Turks destroyed any. Why should they? They

converted them into mosques, finding them especially convenient for that purpose, and they have maintained them with singularly little alteration to the present day.

SALONICA.

This deficiency of examples in the capital is to some extent supplied by those which are found existing at Salonica. Four churches belonging to this age are illustrated in Texier and Pullan's work.

The oldest and the largest of these is that of Sta. Sophia. It is a church of considerable dimensions, considering its age and style, measuring 140 ft. east and west by 118 over all externally, and with a central dome 33 ft. in diameter. It possesses also an upper gallery, and its arrangements generally are well considered and artistic. There does not seem to be any documentary evidence of its age, but, judging from the published details, it belongs probably to the 9th or 10th century, certainly not earlier than the first date, nor lower than the latter. Its dome still retains its mosaics.

Next to this comes the church of St. Bardias, very similar in style though very much smaller, measuring only 53 ft. by 37, exclusive of the apse. Its date is perfectly ascertained—viz., 937. There is certainly not a century of difference in the age of the two last described.

Next to these comes the church of Elias, A.D. 1012, and very similar to it in style is that of the Apostles (woodcut No. 869), which we may consequently date with safety in the 11th century, from this

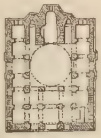
869. Apse of Church of the Apostles, Salonica, from Texier and Pullan.

juxtaposition alone, though there are several other examples which enable us to treat it as a characteristic type of the age. It is a pleasing and picturesque specimen of Byzantine brickwork. Like all the churches of the time, it is small, 63 ft. by 59 externally. In plan it very much resembles the Theotokos at Constantinople, but in elevation is taller and thinner; though whether this arises from any local peculiarity, or from some difference of age, is not clear. I suspect the former. The earthquakes of the capital may have induced a less ambitious form, as far as height is concerned, than was adopted in the provinces.

Greece.

There can be little doubt but that, if a systematic search were made among the churches of Greece, many would be brought to light which would be most useful in completing our knowledge of the Neo-Byzantine style. At Mount Athos alone, and its immediate neighbourhood, there are probably a hundred convents, many of old date, whose churches, even though rebuilt in modern times, must contain fragments of the older style; but they have not yet been examined by any competent architect. For Greece proper we are dependant almost wholly on Cauchaud[1] and Blouet.[2] They unfortunately suffice to prove that there are no churches of any dimensions sufficient to ensure dignity, nor are any so beautiful in outline or detail as to make us regret much that we do not know more about them. Still they are sufficiently original to be worthy of study, and when properly known may help to join together some of the scattered links of the chain which once connected the architecture of the West and East, but which it is at present so difficult to follow out.

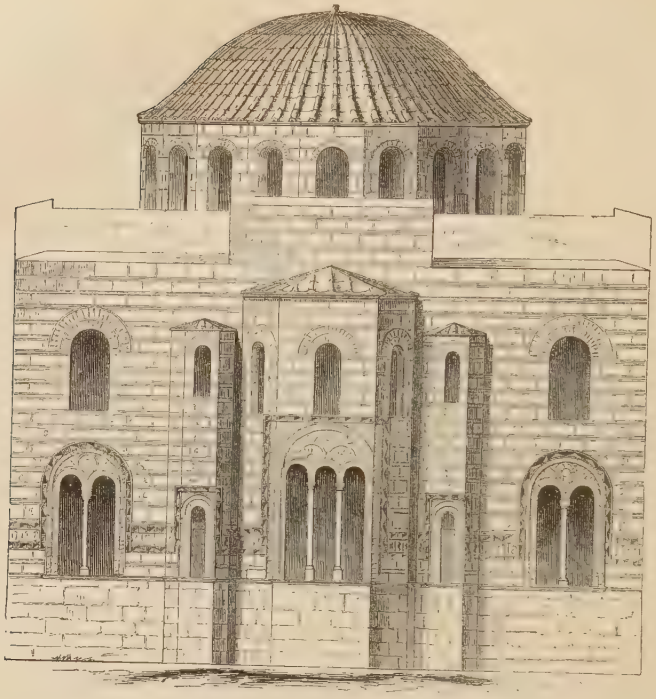
In Athens there are several churches of considerable interest, and not without architectural pretension. They are all small, however. The largest is that known as Panagia Lycodemo, or the church of St. Nicodemus, and is only 62 ft. long by 45 ft. wide over all. It seems also to be the oldest, since its dome is partially pierced with windows inside, though outside there is a distinctly marked drum (woodcut No. 871). Notwithstanding the smallness of its dimensions, considerable effect is obtained internally by the judicious arrangement of the parts and the harmony of proportion which reigns throughout. The exterior is also pleasing, though the absence of a cornice gives an unfinished look to the whole, and there is a want of sufficient connexion between the dome and the walls of the building to make them part of one composition.



870. Plan of Panagia Lycodemo. Scale 100 ft. to 1 in.

[1] 'Églises Byzantines en Grèce.'

[2] 'Expédition Scientifique de la Morée.'

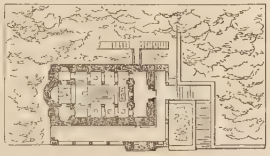


871. Church of Panagia Lycodemo. From A. Lenoir. Enlarged scale.

872. Cathedral at Athens. From Gailhabaud

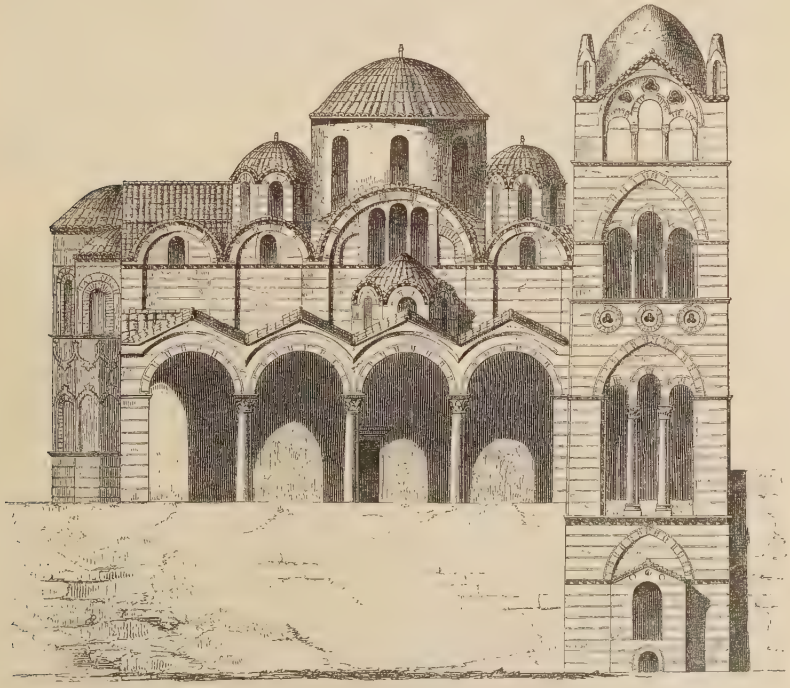
A more beautiful and more interesting example is the church known as the Catholicon or Cathedral at Athens (woodcut No. 872). It is a cathedral, however, only in a Greek sense, certainly not as understood in the Latin Church, for its dimensions are only 40 ft. by 25 over all externally. It is almost impossible to judge of its age from its details, since they are partly borrowed from older classical buildings, or imitations of classical forms, so fashioned as to harmonize with parts which are old. But the tallness of its dome, the form of its windows, and the internal arrangements, all point to a very modern date for its erection—as probably the 13th century as the 11th or 12th.

The church of the Virgin at Misitra in the Peloponnesus—the ancient Sparta—may be of about the same age as the Catholicon at Athens, but differs considerably in style, and bears much more resemblance to the churches of Apulia and Sicily than either of those described above.



873. Plan of Church at Misitra. Scale 100 ft. to 1 in.

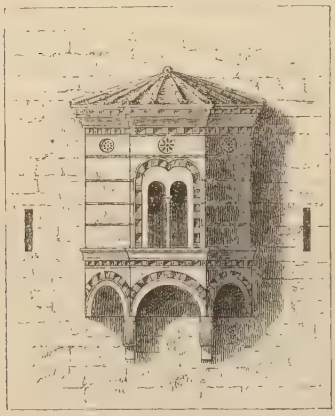
Where arcades are used externally in these Greek churches, they are generally supported by pillars of somewhat classical look, crowned by capitals of the square foliaged form, used to support arches in the early styles all over Europe; and the windows, when divided, take merely the form of



874. Church at Misitra. From Cauchaud, 'Églises Byzantines en Grèce.' Enlarged scale.

diminutive arcades. The Byzantines never attained to tracery; all their early windows are single round-headed openings. These were afterwards grouped together in threes and fives; and, as in the Gothic style, when they could be put under one discharging arch, the piers were attenuated till they became almost mullions, but always supporting constructive arches, without any tendency to run into interlacing forms like the Gothic. The universal employment of mural painting in Byzantine churches, and the consequent exclusion of painted glass, rendered the use of the large windows which the Gothic architects employed quite inadmissible; and in such a climate very much smaller openings sufficed to admit all the light that was required. Tracery would thus, in fact, have been an absurdity. The Byzantine architects sought to ornament their windows externally by the employment of tiles or colours disposed in various patterns, and often produced a very pleasing effect, as may be seen from the woodcut (No. 871) illustrating the apse of the Panagia Lycodemo at Athens, and other specimens quoted above.

Occasionally we find in these churches projecting porches or balconies, and machicolations, which give great relief to the general flatness of the walls. These features are all marked with that elegance peculiar to the East, and more especially to a people claiming descent from the ancient Greeks, and possibly having some of their blood in their veins. Sometimes, too, even a subordinate apse is supported on a bracket-like balcony, so as to form a very pleasing object, as in the accompanying specimen from Misitra.



875. Apse from Misitra. From Cauchaud.

On the whole the Neo-Byzantine style may be said to be characterised by considerable elegance, with occasional combinations of a superior order; but after the time of Justinian the country was too deficient in unity or science to attempt anything great or good, and too poor to aspire to grandeur, so that it has no claim to rank among the great styles of the earth. The old Byzantine style was elevated to a first-class position through the buildings of Justinian; but from his time the history of the art is a history of decline, like that of the Eastern Empire itself and of Greece, down to the final extinction both of the empire and the style, under the successive conquests by the Venetians and the Turks. The only special claim which the Neo-Byzantine style makes upon our sympathies or attention is that of being the direct descendant of Greek and Roman art. As such, it forms

a connecting link between the past and present which must not be overlooked, while in itself it has sufficient merit to reward the student who shall apply himself to its elucidation.

Domestic Architecture.

It is more than probable that very considerable remains of the civil or domestic architecture of the Neo-Byzantine period may still be recovered. Most of their palaces or public buildings have continued to be occupied by their successors, and the habits of Turkish life are singularly opposed to the prying of the archæologist. Almost the only building which has been brought to light and illustrated is the palace of the Hebdomon at Blachernæ in Constantinople. All that remains of it, however, is a block of buildings 80 ft. by 40 in plan, forming one end of a courtyard; those at the other end, which were more extensive, being too much ruined to be restored. The parts that remain probably belong to the 9th century, and consist of two halls, one over the other, the lower supported by pillars carrying vaults, the upper free. The façade towards the court is of considerable elegance, being adorned by a mosaic of bricks of various colours disposed in graceful patterns, and forming an architectural decoration which, if not of the highest class, is very appropriate for domestic architecture.

One great cause of the deficiency of examples may be the combustibility of the capital. They may have been destroyed in the various fires, and outside Constantinople the number of large cities and their wealth and importance was gradually decreasing till the capital itself sunk into the power of the Turks in the year 1453.

CHAPTER V.

ARMENIA.

CONTENTS.

Churches at Dighour, Usunlar, Pitzounda, Bodochwinta, Mokwi, Etchmiasdin, and Kouthais — Churches at Ani and Samthawis — Details.

CHRONOLOGY.

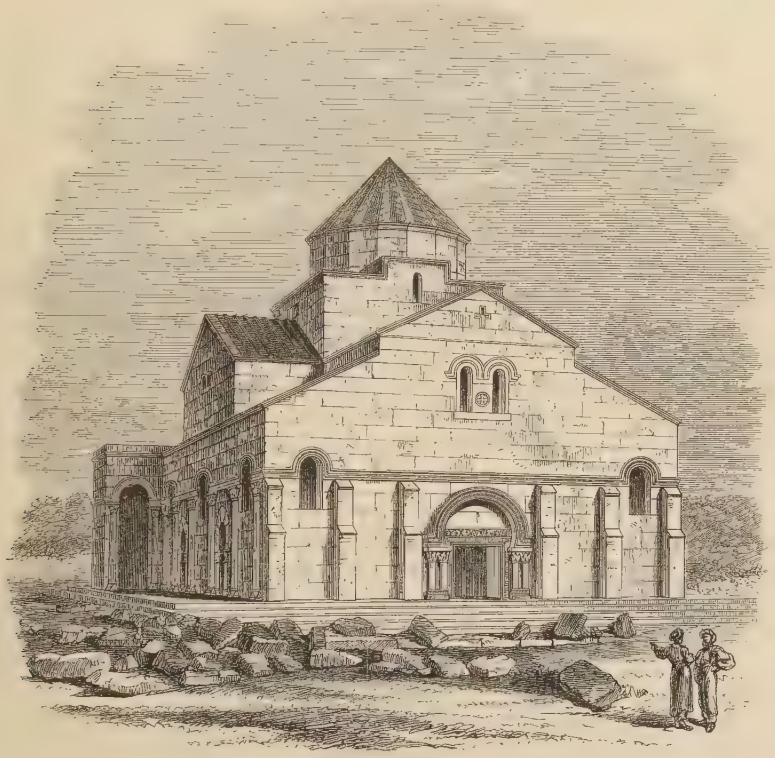
Tiridates converted to Christianity by Gregory II.	A.D. 276	Establishment of Bagratide dynasty under Ashdod	859
St. Gregory confirmed as Pontiff by Pope Sylvester	319	Greatest prosperity under Apas	928
Christianity proscribed and persecuted by the Persians	428-632	Ashdod III.	951
Fall of Sassanide dynasty	632	Sempad II.	977-989
		Alp Arslan takes Ani	1064
		Gajih, last of the dynasty, slain	1079
		Gengis Khan	1222

The architectural province of Armenia forms an almost exact pendant to that of Greece in the history of Byzantine architecture. Both were early converted to Christianity, and Greece remained Christian without any interruption from that time to this. Yet all her earlier churches have perished, we hardly know why, and left us nothing but an essentially mediæval style. Nearly the same thing happened in Armenia, but there the loss is only too easily accounted for. The Persian persecution in the 5th and 6th centuries must have been severe and lasting, and the great bouleversement of the Mahometan irruption in the 7th century would easily account for the disappearance of all the earlier monuments. When, in more tranquil times—in the 8th and 9th centuries—the Christians were permitted to rebuild their churches, we find them all of the same small type as those of Greece, with tall domes, painted with frescos internally, and depending for external effect far more on minute elaboration of details than on any grandeur of design or proportion.

Although the troubles and persecutions from the 5th to the 8th century may have caused the destruction of the greater part of the monuments, it by no means follows that all have perished. On the contrary, we know of the church above alluded to (p. 300) as still existing at Nisibin and belonging to the 4th century, and there can be little doubt that many others exist in various corners of the land; but they have hardly yet been looked for, at least not by anyone competent to dis-

criminate between what was really old and what may have belonged to some subsequent rebuilding or repair.

Till this more careful examination of the province shall have been accomplished, our history of the style cannot be carried back beyond the Hejira. Even then very great difficulty exists in arranging the materials, and in assigning correct dates to the various examples. In the works of Texier,[2] Dubois,[3] Brosset,[4] and Grimm[5] some 40 or 50 churches are described and figured in more or less detail, but in most cases the dates assigned to them are derived from written testimony only, the authors not having sufficient knowledge of the style to be able to check the very fallacious evidence of the *litera scripta*. In con-



876. View of Church at Dighour. From Texier.

[1] Drawings of this church were made by Mr. Boutcher when travelling for the Assyrian Exploration Fund; but, he has hitherto declined to allow their publication.

[2] C. Texier, 'Arménie et la Perse.' 2 vols. folio. Paris.

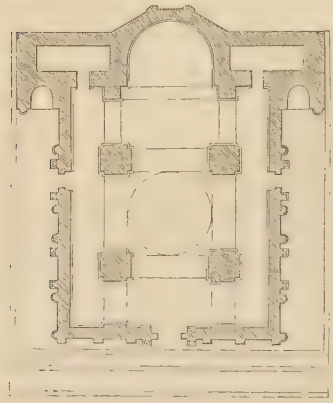
[3] Dubois de Montpereux, 'Voyage autour du Caucase.' 6 vols. 8vo. Paris, 1839, 1841.

[4] Brosset, 'Voyage Archéologique dans la Georgie and l'Arménie.' St. Petersbourg, 1849.

[5] D. Grimm, 'Monuments d'Architecture en Georgie et Arménie.' St. Petersbourg, 1864.

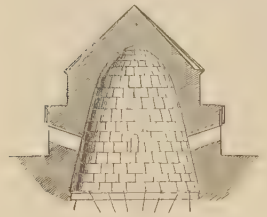
sequence of this, the dates usually given are those of the building of the first church on the spot, whereas, in a country so troubled by persecution as Armenia, the original church may have been rebuilt several times, and what we now see is often very modern indeed.

Among the churches now existing in Armenia, the oldest seems to be that in the village of Dighour near Ani. There are neither traditions nor inscriptions to assist in fixing its date; but, from the simplicity of its form and its quasi-classical details, it is evidently older than any other known examples, and with the aid of the information conveyed in De Vogüé's recent publications we can have little hesitation in assigning it to the 7th century.[1] The church is not large, being only 95 ft. long by 82 wide over all. Internally its design is characterised by extreme solidity and simplicity, and all the details are singularly classical in outline. The dome is an ellipse, timidly constructed, with far more than the requisite amount of abutment. One of its most marked peculiarities is the existence of two apses externally, which form the transepts, and were no doubt intended to receive altars. Its flanks are ornamented by three-quarter columns of debased classical design. These support an architrave which is bent over the heads of the windows, as in the churches of Northern Syria erected during the 6th century.



877. Plan of Church at Dighour. From Texier. Scale 50 ft. to 1 inch.

Its western and lateral doorways are ornamented by horse-shoe arches, which are worth remarking here, as it is a feature which the Saracenic architects used so currently and employed for almost every class of opening. The oldest example of this form known is that of the vault of the building called Takht-i-Ghero on Mount Zagros.[2] In this little shrine all the other details are so purely and essentially classic that the building must be dated before or about the time of Constantine. The horse-shoe again occurs in the church at Dana[3] on the



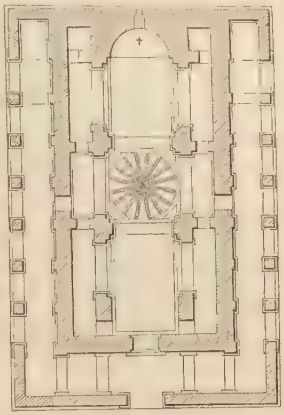
878. Section of Dome at Dighour.

[1] Texier gives three dates to this church. In the 'Byzantine Architecture,' p. 174, it is said to be of the 7th, and at p. 4, of the 9th century. In the 'L'Arménie et la Perse,' at p. 120, the date is given as 1243. My conviction is that the first is correct.

[2] Flandin et Coste, 'Voyage en Perse,' pls. 214, 15.

[3] Texier and Pullan, 'Byzantine Architecture,' pp. lix. lx.

Euphrates in 540. At Dighour we find it used, not in construction but as an ornamental feature. The stilting of the arch was evidently one of those experiments which the architects of that time were making in order to free themselves from the trammels of the Roman semicircular arch. The Saracens carried it much further and used it with marked success, but this is probably the last occasion in which it was employed by a Christian architect as a decorative expedient.

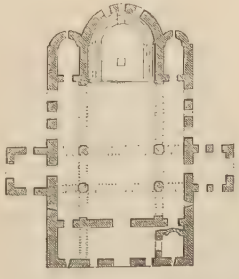


879. Plan of Church at Usunlar. From Grimm. Scale 50 ft. to 1 in.

The six buttresses, with their offsets, which adorn the façade, are another curious feature in the archæology of this church. If they are integral parts of the original design, which there seems no reason to doubt, they anticipate by several centuries the appearance of this form in Western Europe.

One of the oldest and least altered of the Armenian churches seems to be that of Usunlar, said to have been erected by the Catholicos Jean IV. between the years 718 and 726. In plan it looks like a peristylar temple, but the verandahs which surround it are only low arcades, and have very little affinity with classical forms. These are carried round the front, but there pierced only by the doorway. The elevation, as here exhibited, is simple, but sufficiently expresses the internal arrangements, and, with an octagonal dome, forms, when seen in perspective, a pleasing object from every point of view. Both plan and design are, however, exceptional in the province. A far more usual arrangement is that found at Pitzounda in Abkassia, which may be considered as the typical form of an Armenian church. It is said to have been erected by the Emperor Justinian, and there is nothing in the style or ornamentation of the lower part that seems to gainsay its being his. But the plan is so like many that belong to a much later age, that we must hesitate before we can feel sure that it has not been rebuilt at some more modern date. Its

880. West Elevation of Church at Usunlar. From Grimm. Scale 50 ft. to 1 in.



881. Plan of Church at Pitzounda. Scale 100 ft. to 1 in.

cupola certainly belongs to a period long after the erection of Sta. Irene at Constantinople (woodcut No. 862), when the dome pierced with tall windows had become the fashionable form of dome in the Byzantine school. Its interior, also, is unusually tall, and the pointed arches under the dome look like integral parts of the design, and when so employed belong certainly to a much more modern date. On the whole therefore it seems that this church, as we now see it, may have been rebuilt in the 9th or 10th centuries.

882. Section of Church at Pitzounda. From Dubois.

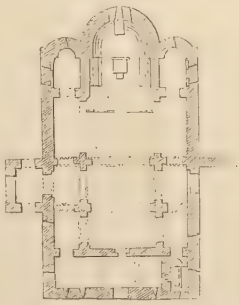
Whatever its date, it is a pleasing example of the style. Externally it is devoid of ornament except what is obtained by the insertion of tiles between the courses of the stone, and a similar relief to the windows; but even this little introduction of colour gives it a gay and

883. View of Church at Pitzounda. From Dubois.

cheerful appearance, more than could easily be obtained by mouldings or carving in stone.

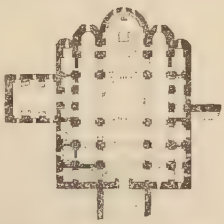
The upper galleries of the nave and the chapels of the choir are also well expressed in the external design, and altogether, for a small church—which it is (only 137 ft. by 75)—it is as pleasing a composition as could easily be found.

The idea that the date of this church is considerably more modern than Dubois and others are inclined to assign to it, is confirmed by a comparison of its plan with that at Bedochwinta, which Brosset determines from inscriptions to belong to the date 1556–1575; and the knowledge lately acquired tends strongly to the conviction that this plan of church belongs to a later period in the middle ages, though it is difficult to determine when it was introduced, and it may be only a continuation of a much earlier form.



884. Church at Bedochwinta. From Brosset. Scale 100 ft. to 1 in.

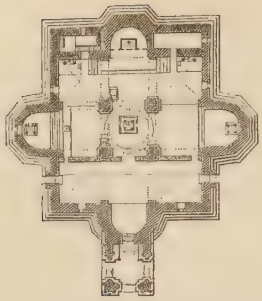
One other church of this part of the world seems to claim especial mention, that of Mokwi, built in the 10th century, and painted, as we learn from inscriptions, between 1080 and 1125. It is a large and handsome church, but its principal interest lies in the fact that in dimensions and arrangement it is almost identical with the contemporaneous church of Sta. Sophia at Novogorod, shewing a connexion between the two countries which will be more particularly pointed out hereafter. It is now very much ruined, and covered with a veil of creepers which prevents its outward form from being easily distinguished.



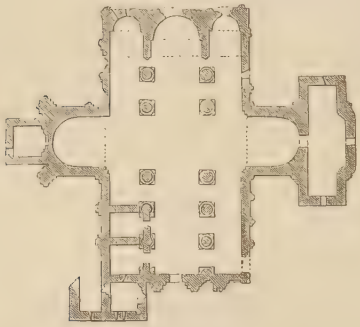
885. Plan of Church at Mokwi. Scale 100 ft. to 1 in.

As will be perceived, its plan is only an extension of the two last mentioned, having five aisles instead of three; but it is smaller in scale and more timid in execution. The church which it most resembles is that at Trabala in Syria (woodcut No. 865) which is certainly of an earlier date than any we are acquainted with further east. Practically the same plan occurs at Athens (woodcut No. 870), and at Misitra (woodcut No. 873), but these seem on a smaller scale than at Mokwi, so that it may be considered as the typical form of a Neo-Byzantine church for four or five centuries, and it would consequently be unsafe to attempt to fix a date from its peculiarities.

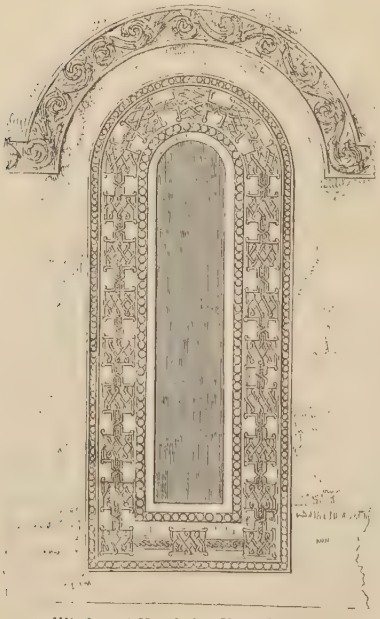
Interesting as these may be in an historical point of view, the most important ecclesiastical establishment in this part of the world is that of Etchmiasdin. Here are four churches built on the spot from which rose the two arches or rainbows, crossing one another at right angles,



886. Plan of Church at Etchmiasdin. From Brosset. Scale 100 ft. to 1 in.



887. Church at Kouthais. From Dubois. Scale 100 ft. to 1 in.



888. Window at Kouthais. From Dubois.

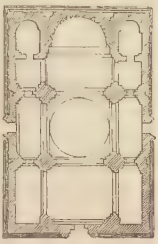
on which Our Saviour is said to have sat when He appeared to St. Gregory. They consequently ought to be at the four angles of a square, or rectangle of some sort, but this is far from being the case. The principal of these churches is that whose plan is represented in woodcut No. 886. It stands in the centre of a large square, surrounded by ecclesiasiastical buildings, and is on the whole rather an imposing edifice. Its porch is modern: so also, comparatively speaking, is its dome; but the plan, if not the greater part of the substructure, is ancient, and exhibits the plainness and simplicity characteristic of its age. The other three churches lay claim to as remote a date of foundation as this, but all have been so altered in modern times that they have now no title to antiquity.

The idea that the churches at Pitzounda and Bedochwinta must be comparatively modern is confirmed by comparing their plan with that of Kouthais, a church which there seems no reasonable ground for doubting was founded in 1007, and erected, pretty much as we now find it, in the early part of the 11th century. It has neither coupled piers nor pointed arches, but is adorned externally with reed-like pilasters and elaborate frets, such as were certainly employed at Ani in the course of the 11th century. The annexed elevation (woodcut No. 888) of one of its windows, exhibits the Armenian style

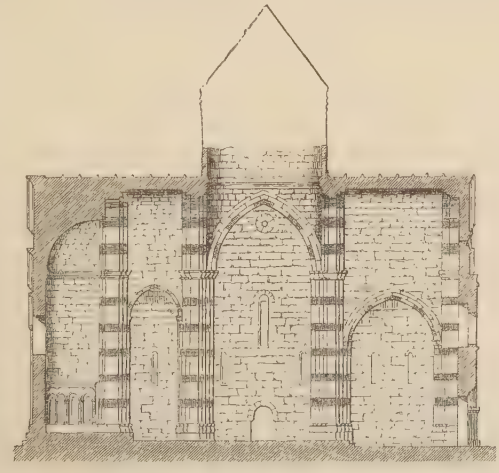
of decoration of this age, but is such as certainly was not employed before this time, though, with various modifications, it became typical of the style at its period of greatest development.

Ani.

Even Etchmiasdin, however, sinks into insignificence, in an architectural point of view, when compared with Ani, which was the capital of Armenia during its period of greatest unity and elevation, and was adorned by the Bagratide dynasty with a series of buildings which still strike the traveller with admiration, at least for the beauty of their details; for, like all churches in this part of the world, they are very small. If, however, the cathedral at Ani is interesting to the architect from its style, it is still more so to the archæologist from its date, since there seems no reason to doubt that it was built in the year 1010, as recorded in an inscription on its walls. This, perhaps, might be put on one side as a mistake, if it were not that there are two beautiful inscriptions on the façade, one of which is dated 1049, the other 1059. To this we must add our knowledge that the city was sacked by Alp Arslan in 1064, and that the dynasty which alone could erect such a monument was extinguished in 1080. With all this evidence, it is startling to find a church not only with pointed arches, but with coupled piers and all the characteristics of a complete pointed-arched style, such as might be found in Italy or Sicily not earlier than the 13th century. This peculiarity is, however, confined to the constructive parts of the interior. The plan is that of Pitzounda or Bedochwinta, modified only by the superior constructive arrangement which the pointed arch enabled the architects to introduce; and externally the only pointed arch anywhere to be detected is in the transept, where the arch of the vault is simulated to pass through to the exterior.



889. Plan of Cathedral at Ani. From Texier. Scale 100 ft. to 1 in.



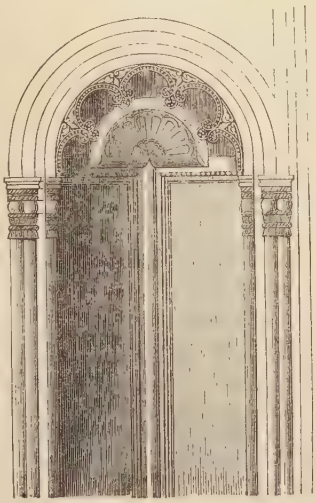
890. Section of Cathedral at Ani. Scale 50 ft. to 1 in.

891. Side Elevation of Cathedral at Ani. Enlarged scale.

In the plan and elevation of the building will be observed a peculiarity which was afterwards almost universal in the style. It is the angular recess which marks the form of the apses outside without breaking the main lines of the building. In the lateral elevation of this cathedral (woodcut No. 891) they are introduced on each side of the portal where the construction did not require them, in order to match those at the east end. But in the Cathedral at Samthawis (woodcut No. 892) they are seen in their proper places on each side of the central apse. Though this church was erected between the years 1050–1079, we find these niches adorned with a foliation (woodcut No. 893) very like what we are accustomed to consider the invention of the 14th century in Europe, though even more elegant than anything of its class used by the Gothic architects.

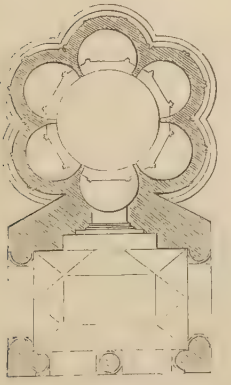
892. East Elevation of Chapel at Samthawis. From Grimm.

At Sandjerli, not far from Ani, is another church, which, from inscriptions translated by M. Brosset, and from sections given by him, appears to belong to the same date (1033–1044), and to possess coupled columns and pointed arches like those of the cathedral of Ani, which indeed it resembles in many points, and which renders the date above given highly probable.

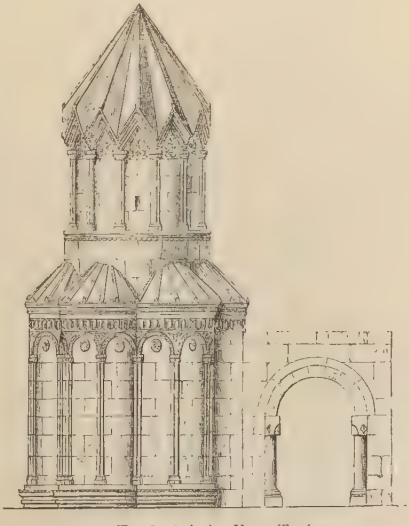


893. Niche at Samthawis. From Grimm.

The plans above quoted may probably be taken as those most typical of the style, but in no part of the world are the arrangements of churches so various. All being small, there were no constructive difficulties to be encountered, and as no congregation was to be accommodated, the architects apparently considered themselves at liberty to follow their fancies in any manner that occurred to them. The consequence is that the plans of Armenian churches defy classification; some are square, or rectangles of every conceivable proportion of length to breadth, some octagons or hexagons, and some of the most indescribable irregularity. Frequently two, three, or four are grouped and joined together. In some instances the sacred number of seven are coupled together in one design, though more generally each little



894. Plan of Tomb at Ani. From Texier.



895. Tomb at Ani. From Texier.

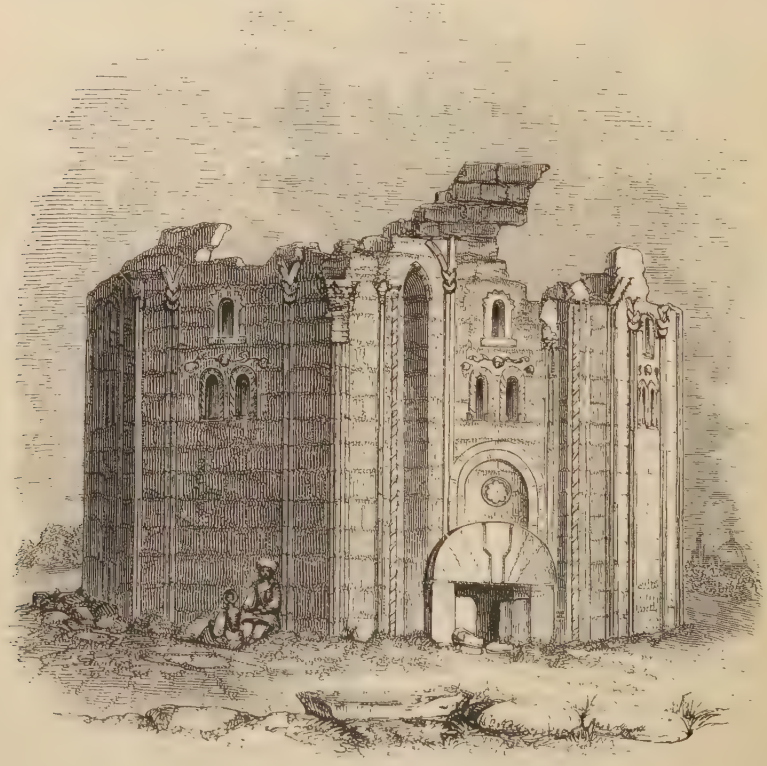
10 20 30 feet.

church is an independent erection; but they are all so small that their plans are of comparatively little importance. No grandeur of effect or poetry of perspective can be obtained without considerable dimensions, and these are not to be found in Armenia.

There are also some examples of circular churches, but these are far from being numerous. Generally speaking they are tombs, or connected with sepulchral rites, and are indeed mere amplifications of the usual tombs of the natives of the country, which are generally little models of the domes of Armenian churches placed on the ground, though perhaps it would be more correct to say that the domes were copied from the tombs than the reverse.

The most elegant of all those hitherto made known is one found at Ani, illustrated in woodcuts Nos. 894, 895. Notwithstanding the smallness of its dimensions, it is one of the most elegant sepulchral chapels known.

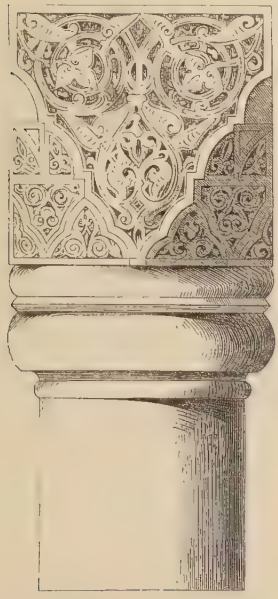
Another on a larger scale (woodcut No. 896) is borrowed from Mr. Layard's book. This tomb shews all the peculiarities of the Armenian style of the 11th or 12th century. Though so much larger, it is by no means so beautiful as the last mentioned tomb at



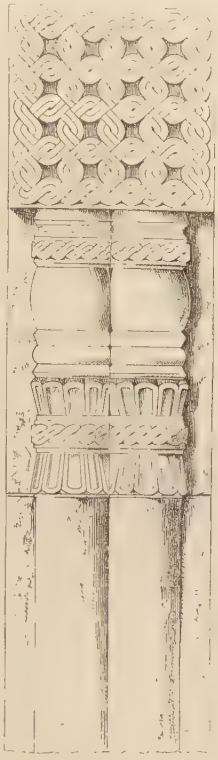
896. Tomb at Varzahan. From Layard's 'Nineveh and Babylon.'

Ani. In its ornamentation a further refinement is introduced, inasmuch as the reed-like columns are tied together by true-love knots instead of capitals—a freak not uncommon either in Europe at the same age, or in the East at the present day, but by no means to be recommended as an architectural expedient.

With scarcely an exception, all the buildings in the Armenian provinces are so small that they would hardly deserve a place in a history of architecture were it not for the ingenuity of their plans and the elegance of their details. The beauty of the latter is so remarkable that, in order to convey a correct notion of the style, it would be necessary to illustrate them to an extent incompatible with the scope of this work. In them too will be found much that has hitherto been ascribed to other sources. The annexed capital (woodcut No. 897), for instance, would generally be put down as Saracenic of the best age, but it belongs, with a great deal more quite as elegant, to one of the churches at Ani; and the capital from Gelathi (woodcut No. 898) would not excite attention if found in Ireland.[1] The interlacing scrolls which



897. Capital at Ani. From Grimm.



898. Capital at Gelathi. From Grimm.

[1] It may seem so wild a speculation that we hesitate to breathe it even in a foot-note; but it is, nevertheless, a fact that there is a similarity between the styles of Armenia and Ireland that cannot be mistaken. It may, of course, be accidental; but is it not also possible that during the Persian persecutions in the 5th and 6th centuries some exiled Christians may have sought refuge in the Green Island of the West, and brought with them their arts? It is true it may be suggested that the two countries have derived their architecture from some common source external to both; but whether this be so or not, it at least seems certain that if there was no communication between Armenia and Ireland, the coincidence is exceptional. There is no other case at present known of two countries whose architecture, without the one borrowing from the other, presents anything approaching to the similarity, both in plan and detail, that exists between the churches of Armenia and those of Ireland in the earlier stages of their art.

occupy its head are one of the most usual as well as one of the most elegant modes of decoration employed in the province, and are applied with a variety and complexity nowhere else found in stone, though they may be equalled in some works illustrated by the pen.

Taken altogether, Armenian architecture is far more remarkable for elegance than for grandeur, and possesses none of that greatness of conception or beauty of outline essential to an important architectural style. It is still worthy of more attention than it has hitherto received, even for its own sake. Its great title to interest will always be its ethnological value, being the direct descendant of the Sassanian style, and the immediate parent of that of Russia. At the same time, standing on the eastern confines of the Byzantine empire, it received thence that impress of Christian art which distinguished it from the former, and which it transmitted to the latter. It thus forms one of those important links in the chain of architectural history which when lost render the study of the subject so dark and perplexed, but when appreciated add so immensely to its philosophical interest.

CHAPTER VI.

ROCK-CUT CHURCHES.

CONTENTS.

Churches at Tchekerman, Inkerman, and Sebastopol — Excavations at Kieghart and Vardzie.

Intermediate between the Armenian province which has just been described and the Russian, which comes next in the series, lies a territory of more than usual interest to the archæologist, though hardly demanding more than a passing notice in a work devoted to architecture. In the neighbourhood of Kertch, which was originally colonised by a people of Grecian or Pelasgic origin, are found numerous tumuli and sepulchres belonging generally to the best age of Greek art, but which, barring some slight local peculiarities, would hardly seem out of place in the cemeteries of Etruria or Crete.

At a later age it is said that it was from the shores of the Palus Mœotis and the roots of the Caucasus that Woden migrated to Scandinavia, bearing with him that form of Buddhism[1] which down to the 11th century remained the religion of the north—while, as if to mark the presence of some strange people in the land, we find everywhere rock-cut excavations of a character, to say the least of it, very unusual in the west.

These have not yet been examined with the care necessary to enable us to speak very positively regarding them;[2] but, from what we do know, it seems that they were not in any instance tombs, like those in Italy and many of those in Africa or Syria. Nor can we positively assert that any of them were viharas or monasteries like most of those in India. Generally they seem to have been ordinary dwellings, but in some instances appropriated by the Christians and formed into churches.

One, apparently, of the oldest, is a rectangular excavation at Tchekerman in the Crimea. It is 37 ft. in length by 21 in width, with

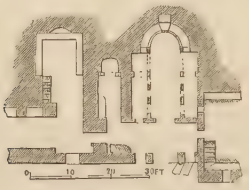
[1] Even if it should be asserted that this is no proof that the inhabitants of these countries were Buddhists in those days, it seems tolerably certain that they were tree-worshippers, which is very nearly the same thing. Procopius tells us that "even in his day these barbarians worshipped forests and groves, and in their barbarous simplicity placed the trees among their gods" ('De Bello Gotico,' Bonn, 1833, ii. 471).

[2] The principal part of the information regarding these excavations is to be found in the work of Dubois de Montpereux, *passim*.

hardly any decoration on its walls, but having in the centre a choir with four pillars on each face, which there seems no doubt was originally devoted to Christian purposes. The cross on the low screen that separates it from the nave is too deeply cut and too evidently integral to have been added. But for this, it would seem to have been intended for a Buddhist vihara.

899. Cave of Inkerman. From Dubois de Montpereux.

Under the fortress at Inkerman—facing the position held by our army—there is an excavation undoubtedly of Christian origin. It is a small church with side-aisles, apse, and all the necessary accompaniments. Beyond this is a square excavation apparently intended as a refectory, and other apartments devoted to the use of a monastic establishment. These again are so like what we find among the Buddhist excavations in India as to be quite startling. The one point in which this church differs from a Buddhist Chaitya is that the aisle does not run round behind the altar. This is universally the case in Buddhist, but only exceptionally so in Christian, churches.



900. Rock-cut Church at Inkerman. From Dubois de Montpereux.

901. View in Church Cave near Sebastopol

Close to Sebastopol is another small church cave with its accompanying monastery. This one is said to be comparatively modern, and if its paintings are parts of the original design it may be so, but no certain data are given for fixing the age of the last two examples. That under the fortress (woodcut No. 900) seems, however, to be of considerable antiquity.

There is one which in plan is very like those just described at Vardzie, said to belong to the 12th century, and another, almost absolutely identical with a Buddhist vihara, at Kieghart in Armenia, which has a date upon it, A.D. 1288.

On the banks of the Kour, however, at Ouplous-Tsikhe and Vardzie, are some excavations which are either temples or monasteries, and which range from the Christian era downwards. These are generally assumed to be residences—one is called the palace of Queen Thamar—and they were evidently intended for some stately purpose. Yet they were not temples in any sense in which that term would be employed by the Greek or Roman world. Whatever their destination, they make, when taken altogether, as curious a group of monuments as are to be found in this corner of Asia, and which may lead afterwards to curious archæological inferences. At present we are hardly in a position to speculate on the subject, and merely point to it here as one well meriting further investigation.

CHAPTER VII.

MEDIÆVAL ARCHITECTURE OF RUSSIA.

CONTENTS.

Churches at Kieff — Novogorod — Moscow — Towers.

CHRONOLOGY.

Rurik the Varangian at Novogorod	A.D. 850	Tartar wars and domination till	A.D. 1480
Olga baptized at Constantinople	955	Ivan III.	1462–1505
St. Vladimir the Great	980-1015	Basil IV.	1505-1533
Yoraslaf died	1055	Ivan IV., or the Terrible	1533–1584
Sack of Kieff	1168	Boris	1598–1605
Tartar invasion under Gengis Khan	1228	Peter the Great	1684–1725

THE long series of the architectural styles of the Christian world which has been described in the preceding pages terminates most appropriately with the description of the art of a people who had less knowledge of architecture and less appreciation of its beauties than any other with which we are acquainted. During the middle ages the Russians did not erect one single building which is worthy of admiration, either from its dimensions, its design, or the elegance of its details; nor did they invent one single architectural feature which can be called their own. It is true the Tartars brought with them their bulbous form of dome, and the Russians adopted it, and adhere to it to the present day, unconscious that it is the symbol of their subjection to a race they affect to despise; but excepting as regards this one feature, their architecture is only a bad and debased copy of the style of the Byzantine empire. There is nothing, in fact, in the architecture of the country to lead us to doubt that the mass of the population of Russia was always of purely Aryan stock, speaking a language more nearly allied to the Sanscrit than any of the other mediæval tongues of Europe, and that whatever amount of Tartar blood may have been imported, it was not sufficient to cure the inartistic tendencies of the race. So much is this felt to be the case, that the Russians themselves hardly lay claim to the design of a single building in their country from the earliest times to the present day. They admit that all the churches at Kieff, their earliest capital, were erected by Greek architects; those of Moscow by Italians or Germans; while those of St. Petersburg, we know, were, with hardly a single exception, erected by Italian, German, or French architects.

These last have perpetrated caricatures of revived Roman architecture worse than are to be found anywhere else. Bad as are some of the imitations of Roman art found in western Europe, they are all the work of native artists, are, partially at least, adapted to the climate, and common sense peeps through their worst absurdities; but in Russia only second-class foreigners have been employed, and the result is a style that out-herods Herod in absurdity and bad taste. Architecture has languished not only in Russia, but wherever the Sclavonic race predominates. In Poland, Hungary, Moldavia, Wallachia, &c., although some of these countries have at times been rich and prosperous, there is not a single original structure worthy to be placed in comparison with even the second-class contemporary buildings of the Celtic or Teutonic races.

Besides the ethnographic inaptitude of the nation, however, there are other causes which would lead us to anticipate, *à priori*, that nothing either great or beautiful was likely to exist in the mediæval architecture of Russia. In the first place, from the conversion of Olga (964) to the accession of Peter the Great (1682), with whom the national style expired, the country hardly emerged from barbarism. Torn by internal troubles, or devastated by incursions of the Tartars, the Russians never enjoyed the repose necessary for the development of art, and the country was too thinly peopled to admit of that concentration of men necessary for the carrying out of any great architectural undertaking.

Another cause of bad architecture is found in the material used, which is almost universally brick covered with plaster; and it is well known that the tendency of plaster architecture is constantly to extravagance in detail and bad taste in every form. It is also extremely perishable,—a fact which opens the way to repairs and alterations in defiance of congruity and taste, and to the utter annihilation of every thing like archæological value in the building.

When the material was not brick, it was wood, like most of the houses in Russia of the present day; and the destroying hand of time, aided no doubt by fire and the Tartar invasions, have swept away many buildings which would serve to fill up gaps, now, it is feared, irremediable in the history of the art.

Notwithstanding all this, the history of architecture in Russia need not be considered as entirely a blank, or as wholly devoid of interest. Locally we can follow the history of the style from the south to the north. Springing originally from two roots—one at Constantinople, the other in Armenia—it gradually extended itself northward. It first established itself at Cherson, then at Kieff, and after these at Vladimir and Moscow, whence it spread to the great commercial city of Novogorod. At all these places it maintained itself till supplanted by the rise of St. Petersburg.

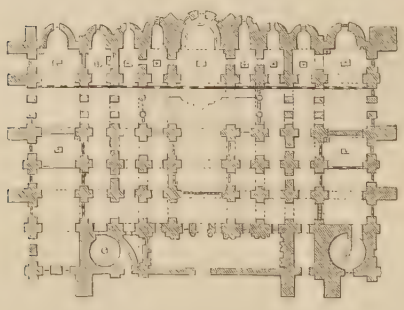
Though the Princess Olga was baptised in 964, the general profession of Christianity in Russia did not take place till the reign of Vladimir (981–1015). He built the wooden cathedral at Cherson, which has perished. At Kieff the same monarch built the church of Desiatinna, the remains of which existed till within the last few years, when they were removed to give place to a modern abomination. He also built that of St. Basil in the same city, which, notwithstanding modern improvements, still retains its ancient plan, and is nearly identical in arrangement and form with the Catholicon at Athens (woodcut No. 872). The plan (woodcut No. 902) gives a fair idea of the usual dimensions of the older churches of Russia. The parts shaded lighter are subsequent additions.

902. Church of St. Basil, Kieff. Scale 100 ft. to 1 in.

903. St. Irene, Kieff.

A greater builder than Vladimir was Prince Yaroslaf (1019–1054). He founded the church of St. Irene at Kieff (woodcut No. 903), the ruins of which still exist. It is a good specimen of the smaller class of churches of that date.

His great works were the cathedrals of Kieff and Novogorod, both dedicated to Sta. Sophia, and with the church at Mokwi quoted above (woodcut No. 885) forming the most interesting group of Russian churches of that age. All three belong to the 11th century, and are so extremely similar in plan, that, deducting the subsequent additions from the two Russian examples, they may almost be said to be identical. They also show so intimate a connection between the places on the great commercial road from the Caucasus to the Baltic, that they point out at once the line along which we must look for the origin of the style.



904. Plan of Cathedral at Kieff. Scale 100 ft. to 1 in.

Of the three, that at Kieff[1] (woodcut No. 904) is the largest; but it is nearly certain that the two outer aisles are subsequent additions, and that the original church was confined to the remaining seven aisles. As it now stands, its dimensions are 185 ft. from north to south, and 136 from east to west. It consequently covers only about 25,000 ft., or not half the usual dimensions of a Western cathedral of the same

[1] All the plans and information regarding the churches at Kieff are obtained from a Russian work devoted to the subject, procured for me on the spot by Mr. Vignoles, C.E.

class. As will be perceived, its plan is like that of the churches of Asia Minor, so far as the central aisles are concerned. In lateral extension it resembles a mosque, a form elsewhere very unusual in Christian churches, but which here may be a Tartar peculiarity. At all events it is generally found in Russian churches, which never adopt the long basilican form of the West. If their length in an eastern and western direction ever exceeds the breadth, it is only by taking in the narthex with the body of the church.

Internally this church retains many of its original arrangements, and many decorations which, if not original, are at least restorations or copies of those which previously occupied their places. Externally it has been so repaired and rebuilt that it is difficult to detect what belongs to the original work.

In this respect the church of Novogorod has been more fortunate. Owing to the early decline of the town it has not been much modern-

905. East End of the Church at Novogorod. From a Drawing by A. Durand.

ised. The interior retains many of its primitive features. Among other furniture is a pair of bronze doors of Italian workmanship of the 12th century closely resembling those of San Zenone at Verona. The part of the exterior that retains most of its early features is the eastern end, represented in the woodcut No. 905. It retains the long reed-like shafts which the Armenians borrowed from the Sassanians, and which penetrated even to this remote corner. Whether the two lower circular apses shown in the view are old is by no means clear: but it is probable that they are at least built on ancient foundations. The domes on the roof, and indeed all the upper part of the building, belong to a more modern date than the substructure.

The cathedral of Tchernigow, near Kieff, founded 1024, retains perhaps more of its original appearance externally than any other church of its age. Like almost all Russian churches it is square in plan, with a dome in the centre surrounded by four smaller cupolas placed diagonally at the corners. To the eastward are three apses, and the narthex is flanked by two round towers, the upper parts of which, with the roofs, have been modernised, but the whole of the walls remain as originally erected, especially the end of the transept, which precisely resembles what we find in Greek churches of the period.

906. Cathedral at Tchernigow. From Blasius, 'Reise in Russland.'

To the same age belong the convent of the Volkof (1100) and of Yourief at Novogorod, the church of the Ascension, and several others at Kieff. All these are so modernised as, except in their plans, to show but slight traces of their origin.

Another of the great buildings of the age was the cathedral of Vladimir (1046). It is said to have been built, like the rest, by Greek artists. The richness and beauty of this building have been celebrated by early travellers, but it has been entirely passed over by more modern writers. From this it is perhaps to be inferred that its ancient form is completely disguised in modern alterations.

The ascendancy of Kieff was of short duration. Early in the 13th century the city suffered greatly from civil wars, fires, and devastations

of every description, which humbled her pride, and inflicted ruin upon her from which she never wholly recovered.

Vladimir was after this the residence of the grand dukes, and in the beginning of the 14th century Moscow became the capital, which it continued to be till the seat of empire was transferred by Peter the Great to St. Petersburgh. During these three centuries Moscow was no doubt adorned with many important buildings, since almost every church traces its foundation back to the 14th century; but as fires and Tartar invasion have frequently swept over the city since then, few retain any of the features of their original foundation, and it may therefore perhaps be well to see what can be gleaned in the provinces before describing the buildings of the capital.

As far as can be gathered from the sketch-books of travellers or their somewhat meagre notes, there are few towns of Russia of any importance during the middle ages which do not possess churches said to have been founded in the first centuries after its conversion to Christianity; though whether the existing buildings are the originals, or how far they may have been altered and modernised, will not be known till some archæologist visits the country, directing his attention to this particular inquiry. Although the Russians probably built as great a number of churches as any nation of Christendom, yet like the Greek churches they were all undoubtedly small. Kieff is said even in the age of Yaroslaf, to have contained 400 churches, Vladimir nearly as many. Moscow, in the year 1600, had 400 (of which 37 were in the Kremlin), and now possesses many more.

907. Village Church near Novogorod. From a Drawing by A. Durand.

Many of the village churches still retain their ancient features; the example here given of one near Novogorod belongs probably to the 12th century, and is not later than the 13th. It retains its shafted apse, its bulb-shaped

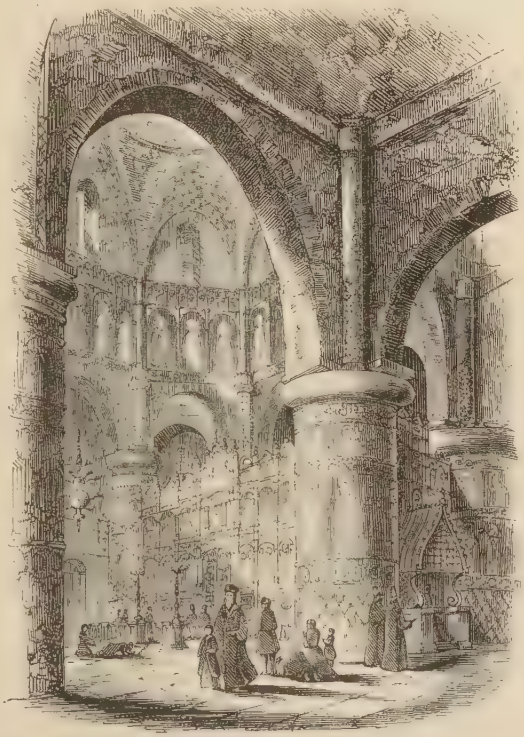
Tartar dome, and, as is always the case in Russia, a square detached belfry —though in this instance apparently more modern than the edifice itself. Woodcut No. 908 is the type of a great number of the old village churches, which, like the houses of the peasants, are of wood, generally of logs laid one on the other, with their round ends intersecting at the angles, like the log-huts of America at the present day. As architectural objects they are of course insignificant, but still they are characteristic and picturesque.

908. Village Church near Tzarkoe Selo. From Durand.

Internally all the arrangements of the stone churches are such as are appropriate for pictorial rather than for sculptural decoration. The pillars are generally large cylinders covered with portraits of saints, and the capitals are plain, cushion-like rolls, with painted ornaments. The vaults are not relieved by ribs, or by any projections that could interfere with the coloured decorations. In the wooden churches the construction is plainly shewn, and of course is far lighter. In them also colour almost wholly supersedes carving. The peculiarities of these two styles are well illustrated in the two woodcuts, Nos. 909 and 910, from churches near Kostroma in Eastern Russia. Both belong to the middle ages, and both are favourable specimens of their respective classes. In these examples, as indeed in every Greek church, the principal object of ecclesiastical furniture is the *iconostasis* or image-bearer, corresponding to the rood-screen that separates the choir from the nave in Latin churches. The rood-screen, however, never assumed in the West the importance which the iconostasis always possessed in the East. There it separates and hides from the church the sanctuary and the altar, from which the laity are wholly excluded. Within it the elements are consecrated, in the presence of the priests alone, and are then brought forward to be displayed to the public. On this screen, as performing so important a part, the Greek architects and artists have lavished the greatest

amount of care and design, and in every Greek church, from St. Mark's at Venice to the extreme confines of Russia, it is the object that first attracts attention on entering. It is, in fact, so important that it must be regarded rather as an object of architecture than of church furniture.

The architectural details of these Russian churches must be pronounced to be bad; for, even making every allowance for difference of taste, there is neither beauty of form nor constructive elegance in any part. The most characteristic and pleasing features are the five domes that generally ornament the roofs, and which, when they rise from the *extrados*, or uncovered outside of the vaults, certainly look well. Too frequently, however, the vault is covered by a wooden roof, through which the domes then peer in a manner by no means to be admired. The details of the lower part are generally bad. The view (woodcut No. 911) of a doorway of the Troitzka monastery, near Moscow, is sufficiently characteristic. Its most remarkable feature is the baluster-like pillars of which the Russians seem so fond. These support an arch with a pendant in the middle—a sort of architectural *tour de force* which the Russian architects practised everywhere and in every age, but which is far from being beautiful in itself, or from possessing any architectural propriety. The great roll over the door is also unpleasant. Indeed, as a general rule, wherever in Russian architecture the details are original, they must be condemned as ugly.



909. Interior of Church at Kostroma. From Durand.

At Moscow we find much that is, at all events, curious. It first became a city of importance about the year 1304, and retained its prosperity throughout that century. During that time it was adorned by many sumptuous edifices. In the beginning of the 15th century it

was taken and destroyed by the Tartars, and it was not till the reign of Ivan III. (1462–1505) that the city and empire recovered the disasters of that period. It is extremely doubtful if any edifice now found in Moscow can date before the time of the monarch.

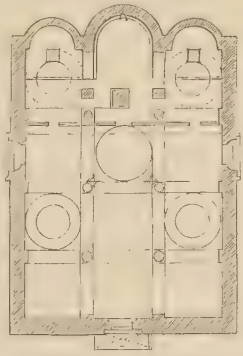
In the year 1479 this king dedicated the new church of the Assumption of the Virgin, said to have been built by one Aristoteles, a a native of Bologna, in Italy, who was brought to Russia expressly for the purpose. The plan of it (woodcut No. 912) gives a good idea of the arrangement of a Russian church of this age. Small as are its dimensions—only 74 ft. by 56 over all externally, which would be a very small parish church anywhere else—the two other cathedrals of Moscow, that of the Archangel Michael and the Annunciation, are even smaller still in plan. Like true Byzantine churches, they would all be exact squares, but that the narthex being taken into the church gives it a somewhat oblong form. In the church of the Assumption there is, as is almost universally the case, one large dome over the centre of the square, and four smaller ones in the four angles. The great iconostasis runs, as at St. Sophia at Kieff, quite across the church; but the two lateral chapels have smaller screens inside which hide their altars, so that the part between the two becomes a sort of private chapel. This seems to be the plan of the greater number of the Russian churches of this age.

910. Interior of Church near Kostroma. From Durand.

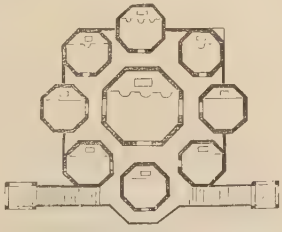
But there is one church in Moscow, that of Vassili (St. Basil) Blanskenoy, which is certainly the most remarkable, as it is the most characteristic, of all the churches of Russia. It was built by Ivan the Terrible (1534–1584), and its architect was a foreigner, generally supposed to have come from the West, inasmuch as this monarch sent an

embassy to Germany under one Schlit, to procure artists, of whom he is said to have collected 150 for his service. If, however, German workmen erected this building, it certainly was from Tartar designs. Nothing like it exists to the westward. It more resembles some Eastern pagoda of modern date than any European structure, and in fact must be considered as almost a pure Tartar building. Still, though strangely altered by time, most of its forms can be traced back to the Byzantine style, as certainly as the details of the cathedral of Cologne to the Romanesque. The central spire, for instance, is the form into which the Russians had during five centuries been gradually changing the straight-lined dome of the Armenians. The eight others are the Byzantine domes converted by degrees into the bulb-like forms which the Tartars practised at Agra and Delhi, as well as throughout Russia. The arrangement of these domes will be understood by the plan (woodcut No. 913), which shows it to consist of one central octagon surrounded by eight smaller ones, raised on a platform ascended by two flights of stairs. Beneath the platform is a crypt. For the general appearance the reader must be referred to woodcut No. 914, for words would fail to convey any idea of so bizarre and complicated a building. At the same time it must be imagined as painted with the most brilliant colours; its domes gilt, and relieved by blue, green, and red, and

911. Doorway of the Troitzka Monastery, near Moscow.



912. Plan of the Church of the Assumption, Moscow. No scale.



913. Plan of the Church of St. Basil, Moscow. No scale.

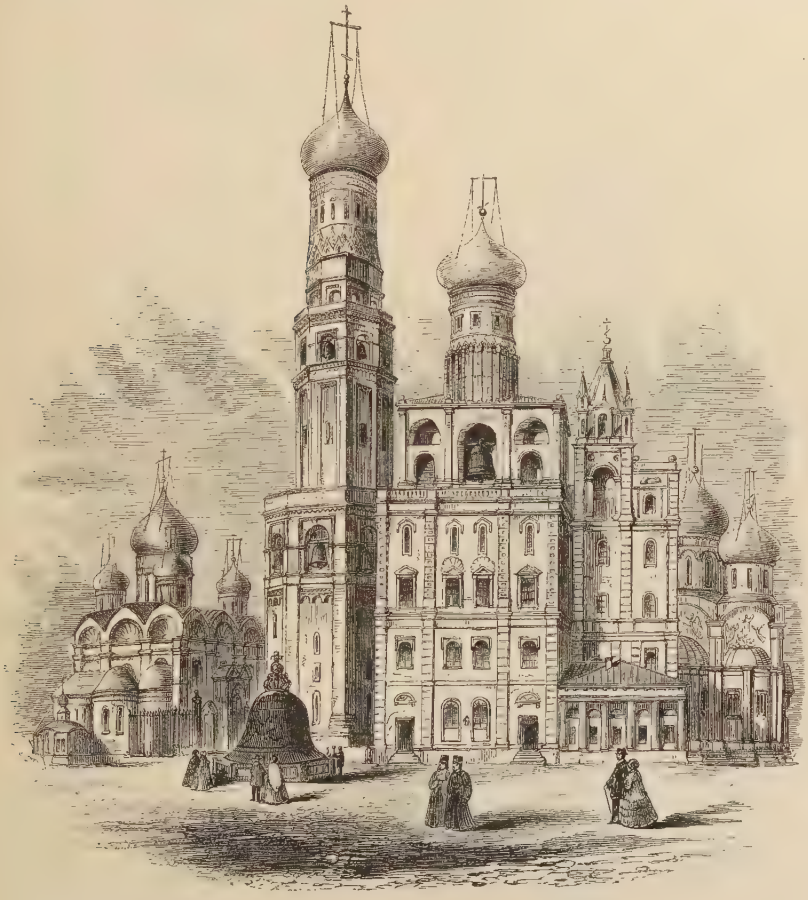
altogether a combination of as much barbarity as it is possible to bring together in so small a space. To crown the whole, according to the legend, Ivan ordered the eyes of the architect to be put out, lest he should ever surpass his own handiwork; and we may feel grateful that nothing so barbarous was ever afterwards attempted in Europe.

View of the Church of Vassili Blanskenoy, Moscow. 914.

Towers.

Next in importance to the churches themselves are the belfries which always accompany them. The Russians seem never to have adopted separate baptisteries, nor did they affect any sepulchral magnificence in their tombs. From the time of Herodotus the Scythians

were great casters of metal, and famous for their bells. The specimens of casting of this sort in Russia reduce all the great bells of Western Europe to comparative insignificance. It of course became necessary to provide places in which to hang these bells: and as nothing, either in Byzantine or Armenian architecture, afforded a hint for amalgamating the belfry with the church, they went to work in



915. Tower of Ivan Veliki, Moscow, with the Cathedrals of the Assumption and the Archangel Gabriel.

their own way, and constructed the towers wholly independent of the churches. Of all those in Russia, that of Ivan Veliki, erected by the Czar Boris, about the year 1600, is the finest. It is surmounted by a cross 18 ft. high, making a total height of 269 ft. from the ground to the top of the cross. It cannot be said to have any great beauty, either of form or detail: but it rises boldly from the ground, and towers over all the other buildings of the Kremlin. With this tower for its prin-

cipal object, the whole mass of building is at least picturesque, if not architecturally beautiful. In the woodcut (No. 915) the belfry is shown as it stood before it was blown up by the French. It has been since rebuilt, and with the cathedrals on either hand, makes up the finest group in the Kremlin.

Besides the belfries, the walls of the Kremlin are adorned with towers, meant not merely for military defence, but as architectural ornaments, and reminding us somewhat of those described by Josephus as erected by Herod on the walls of Jerusalem. One of these towers (woodcut No. 916), built by the same Czar Boris who erected that last described, is a good specimen of its class. It is one of the principal of those which give the walls of the Kremlin their peculiar and striking character.

916. Tower of Boris, Kremlin, Moscow.

These towers, however, are not peculiar to the Kremlin of Moscow. Every city in Russia had its Kremlin as every one in Spain had its Alcazar, and all were adorned with walls deeply machicolated, and interspersed with towers. Within were inclosed five-domed churches and belfries, just as at Moscow, though on a scale proportionate to the importance of the city. It would be easy to select numerous illustrations of this. They are, however, all very much like one another, nor have they sufficient beauty to require us to dwell long on them. Their gateways, however, are frequently important. Every city had its *porta sacra*, deriving its importance either from some memorable event or from miracles said to have been wrought there, and being the triumphal gateways through which all processions pass on state occasions.

The best known of these is that of Moscow, beneath whose sacred arch even the Emperor himself must uncover his head as he passes through; and which, from its sanctity as well as its architectural character, forms an important feature among the antiquities of Russia.

So numerous are the churches, and, generally speaking, the fragments of antiquity in this country, that it would be easy to multiply examples to almost any extent. Those quoted in the preceding pages are, architecturally, the finest as well as the most interesting, from an antiquarian point of view, of those which have yet been visited and drawn; and there is no reason to believe that others either more magnificent or more beautiful still remain undescribed.

917. Sacred Gate, Kremlin, Moscow.

This being the case, it is safe to assert that Russia contains nothing that can at all compare with the cathedrals, or even the parish churches of Western Europe, either in dimensions or in beauty of detail. Every chapter in the history of architecture must contain something to interest the student: but there is none less worthy of attention than that which describes the architecture of Russia, especially when we take into account the extent of territory occupied by its people, and the enormous amount of time and wealth which has been lavished on the multitude of insignificant buildings to be found in every corner of the empire.

HISTORY OF ARCHITECTURE.

PART III.

PAGAN ARCHITECTURE.

HISTORY OF ARCHITECTURE.

PART III.—PAGAN ARCHITECTURE.

BOOK I.

CHAPTER I.

DIVISION OF THE SUBJECT.

There was no real difficulty in arranging the subjects treated of in the first and second parts of this work in a manner so consecutive as to be easily followed without confusion and unnecessary repetition. Even, however, had this not been so, it would have been comparatively of little consequence, inasmuch as an author may fairly presume on a certain amount of previous knowledge on the part of his readers when treating of Classical antiquities or Christian architecture. The case, however, is widely different when we come to describe the styles belonging to the third division of the work. Their origin and their affinities are infinitely more complex and more difficult to trace, and it is only too probable that but few readers have sufficient previous knowledge to guide them through the labyrinth. Few, it is to be feared, have any very distinct idea of the various ramifications of Saracenic architecture as practised in the countries around the Mediterranean Sea, and fewer still have grasped the myriad forms it assumed in Persia and India. In like manner the various modifications of Buddhist and Hindoo art have not yet been worked out into any intelligible sequence, and much more is required to be known before it can be satisfactorily accomplished. There are not many persons who have more than a willow-pattern knowledge of the architecture of China, and no one has yet been able to put forward a reasonable theory of the origin or the age of the antiquities of Mexico and Peru.

Notwithstanding this, the styles just mentioned do form a group possessing many points of similarity to one another, and differing very

essentially from those described in the previous pages. Generally speaking, they are Asiatic in their origin, and such a term might in most instances describe them; but the old Assyrian style was also Asiatic; so were the Armenian and other Christian styles, and it would be confusing to apply that term to the Saracenic of Spain. The name "Pagan" has been selected, not as a term of reproach, but as distinguishing them from the Heathen or pre-Christian styles, and from the Christian art, out of which many of them arose; while it is a sufficiently neutral term for our present purpose. If the term Asiatic could be employed, it would serve better, perhaps, than any other to give the keynote of the position of these styles with reference to the art of the rest of the world. It is in vain to look among them for the simple sublimity of conception that characterised the monuments of Egypt, for the purity and elegance of Grecian art, for the grandeur of that of Rome, or the lofty aspirations which impart such beauty to the creations of the Gothic architects. On the other hand, in all the more delicate forms of imagery in stone, the Eastern architects far surpass those of the West. The ornamentation of the mosques and tombs of the Saracens or of the temples of the Indians is infinitely more varied, and often more elegant and appropriate, than anything done by any Heathen or Christian architect. But while the works to be described far surpass, in many respects, those already enumerated, they belong to a lower class of art. It was far nobler in the Western architects to have achieved the amount of success to which they attained in their aspiration after the highest aims, than it was in the Eastern artists to have reached the perfection they accomplished in the lower grade on which they took their stand. In this, as in every other instance, however, art is only the exponent of what we learn from every other source. For subtlety and variety, as for refinement or grace, the Asiatic far excels his European compeer; but in manly power and intellectual greatness he is infinitely inferior.

All this must be borne steadily in mind in attempting to estimate the value of the styles described in the Third Part of this work. If we expect to find there the qualities which are most esteemed in the literature or art of Europe we shall be disappointed: if we are content to forego something of our worship of intellect to revel for a while in the pleasures of imagination, they may afford intense enjoyment. It is like asking us to turn from the contemplation of the grandeur of the forest to indulge in the brilliancy of the flower garden. But there is beauty in flowers as in trees; and he is no true critic of art or lover of nature who cannot see beauty in the smaller as well as in the more imposing productions of nature or art.

The difficulty of conveying to the Western mind a correct impression of the Pagan styles, arises not alone from the fact of their

belonging to another and unfamiliar grade of art, but also from their infinite variety. It need hardly be repeated at this stage of our history that no style was born perfect, like Minerva from the head of Jupiter; either we can trace its indigenous growth from the soil, or we can name its parents and perceive the influence which each had on its growth. When the Saracenic conquest spread itself over the face of the old world, every country to which it reached had a style of its own, and as the Arabs had none, they adopted in every land the local style which the people knew and had learnt to admire, and by slow and steady progress gradually framed it to their purposes, but without any unity of purpose or well defined aim. Every country from Spain to Bengal had consequently a Saracenic style of its own. In India alone some ten or twelve varieties exist, some differing as much the one from the other as Classic architecture does from Gothic. Besides these, each of the various races of India and the further East has a style of its own. There are as many Buddhist styles as there are Saracenic, and as many Hindoo as either, and all changing and interchanging like the pictures of a kaleidoscope. It adds also very much to the difficulty that the art belongs to a grade which affords so little means of comparison with those styles with which we are already familiar.

Under these circumstances it will be found almost impossible to propose any arrangement of the subject which shall not appear open to many and obvious objections. Any classification must be at best a choice of difficulties; but the following appears to meet the exigences of the subject to a greater extent than any other. With wider knowledge and more familiarity on the part of readers some other may occur, but for the present it certainly will add to the clearness of what follows, if a classification is adopted based rather on the topographical than on the chronological division of the subject.

Arranged on this basis, the First Book will comprise all the various forms of Saracenic architecture which were practised in those countries which had previously been Christian. By separating them from the forms practised further eastward we confine our history to those countries whose architecture has been described in the previous pages, and are thus enabled to trace the origin of the style out of the Byzantine and other styles with which we are already familiar. If our investigation stopped there it would still be complete in itself, though falling far short of an universal history of the art.

Following up the same topographical arrangement, the Second Book will comprise the history of architecture in Central Asia from the time when we left it in Persia to the present day, comprising the Sassanian and Saracenic styles of that country.

The Third Division, in four Books, will embrace all the styles of architecture practised in India during the 2100 years we are able to follow the narrative. The First Book will comprise all the styles of

Buddhist architecture known in the East, with the exception of China; the Second, Hindu art in all its forms; the Third the Indian Saracenic, as based on the last; and the Fourth Book will treat of the exceptional styles of Cashmere and Cambodia. The advantage of this division will be obvious when we come to speak of the subject in detail. The Indian Saracenic style is quite incomprehensible without some previous knowledge of the Hindu; and it would be inconvenient to thrust these in before the Saracenic styles derived from the Byzantine, and equally confusing to group together the Indian and Western styles of Saracenic art, before a knowledge had been acquired of the basis on which the former rests.

From the Indian the transition is easy to Chinese architecture, which, however, is so exceptional as to require a totally different treatment. Its description will occupy the Seventh Book.

The Eighth Book will, for the present, conclude the work.[1] In it it is proposed to describe the Mexican and Peruvian styles of the new world. Their position is naturally the last, for either they are wholly unconnected with the other styles of the world, or if any affinities are to be traced to them, it can only result from the most extended knowledge of all that man has wrought in rock or stone in other quarters of the globe.

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[1] When this work was first undertaken, it was intended to have completed the history of art, by a chapter devoted to Celtic or Megalithic architecture; but the quantity of new materials which have accumulated during the progress of the work, and the extent to which it has been found necessary to amplify some portions, have already so increased the size of this volume as to render any addition impossible without adding inconveniently to its bulk. Strictly speaking, Megalithic architecture hardly belongs to a work devoted to architecture as a fine art, and might therefore be omitted altogether; but the questions of archæology and ethnography involved in its discussion are so intimately connected with many subjects mooted in these pages, that our history can hardly be considered complete without some reference to them. It is proposed, consequently, to add an appendix to the third volume, when it is reprinted, containing a description of the objects belonging to this branch of the subject.

CHAPTER II.

SARACENIC ARCHITECTURE IN CHRISTIAN COUNTRIES; OR, BYZANTINE SARACENIC.

INTRODUCTION.

The first century of the Hejira forms a chapter in the history of mankind as startling from the brilliancy of its events as it is astonishing from the permanence of its results. Whether we consider the first outburst of Mahometanism as a conquest of one of the most extensive empires of the world by a small and previously unknown people, or as the propagation of a new religion, or as both these events combined, the success of the movement is without a parallel in history. It far surpassed the careers of the great Eastern conquerors in the importance of its effects, and the growth of the Roman empire in brilliance and rapidity. From Alexander to Napoleon, conquests have generally been the result of the genius of some gifted individual, and have left, after a short period, but slight traces of their transient splendour. Even Rome's conquest of the world was a slow and painful effort compared with that of the Arabians; and though she imposed her laws on the conquered nations, and enforced them by her military organisation, she had neither the desire nor the power to teach them a new faith; nor could she bind the various nations together into one great people, who should aid her with heart and hand in the mission she had undertaken.

It was, indeed, hardly possible that a poor and simple, but warlike and independent, people like the Arabs, could long exist close to the ruins of so wealthy and so overgrown an empire as that of Constantinople, without making an attempt to appropriate the spoil which the effeminate hands of its possessors were evidently unable to defend. It was equally impossible that so great a perversion of Christianity as then prevailed in Egypt and Syria could exist in a country which from the earliest ages had been the seat of the most earnest Monotheism, without provoking some attempt to return to the simpler faith which had never been wholly superseded. So that on the whole the extraordinary success of Mahometanism at its first outset must

be attributed to the utter corruption, religious and political, of the expiring empire of the East, as much as to any inherent greatness in the system itself or the ability of the leaders who achieved the great work.

Had it been a mere conquest, it must have crumbled to pieces as soon as completed; for Arabia was too thinly populated to send forth armies to fight continual battles, and maintain so widely extended an empire. Its permanence was owing to the fact that the converted nations joined the cause with almost the enthusiasm of its original promoters; Persia, Syria, and Africa, in turn, sent forth their swarms to swell the tide of conquest, and to spread the religion of Islam to the remotest corners of the globe.

To understand either Mahometan history or art it is essential to bear this constantly in mind, and not to assume that, because the first impulse was given from Arabia, everything afterwards must be traced back to that primitive people; on the contrary, there was no great depopulation, if any, of the conquered countries, no great transplantation of races. Each country retained its old inhabitants, who, under a new form, followed their old habits and clung to their old feelings with all the unchangeableness of the East, and perhaps with even less outward change than is usually supposed. Before the time of Mahomet the Sabæan worship of the stars was common to Arabia and Persia, and a great part of the Babylonian Empire. The Jewish religion was diffused through Syria and parts of Arabia. Egypt, long before the time of Mahomet, must have been to a great extent Arabian, as it now wholly is. In all these countries the religion of Mahomet struck an ancient chord that still vibrated among the people, and it must have appeared more as a revival of the past than as the preaching of a new faith. In Spain alone colonization to some extent seems to have taken place, but we must not even there overlook the fact of the early Carthaginian settlements, and the consequent existence of a Semitic people of considerable importance in the south, where the new religion maintained itself long after its extinction in those parts of Spain where no Semitic blood is known to have existed.

So weak, indeed, in the converted countries was the mere Arabian influence, that each province soon shook off its yoke, and, under their own Caliphs, Persia, Syria, Egypt, Africa, and Spain soon became independent states, yielding only a nominal fealty to that Caliph who claimed to be the rightful successor of the Prophet, and, except in faith and the form of religion, the real and essential change was slight, and far greater in externals than in the innate realities of life.

All this is more evident from the architecture than from any other department—without, at least, more study than most people can devote to the subject. The Arabs themselves had no architecture, properly so called. Their only temple was the Kaabah at Mecca, a small square

tower, almost destitute of architectural ornament, and more famous for its antiquity and sanctity than for any artistic merit.

It is said that Mahomet built a mosque at Medina—a simple edifice of bricks and palm-sticks.[1] But the Koran gives no directions on the subject, and so simple were the primitive habits of the nomad Arabs, that had the religion been confined to its native land, it is probable that no mosque worthy of the name would ever have been erected. With them prayer everywhere and anywhere was equally acceptable. All that was required of the faithful was to turn towards Mecca at stated times and pray, going through certain forms and in certain attitudes, but whether the place was the desert or the housetop was quite immaterial.

For the first half century after the Mahometans burst into Syria they seem to have built very little. The taste for architectural magnificence had not yet taken hold of the simple followers of the Prophet, and desecrated churches and other buildings supplied what wants they had. When they did take to building, about the end of the 7th century, they employed the native architects and builders, and easily converted the Christian church with its atrium into a place of prayer; and then, by a natural growth of style, they gradually elaborated a new style of details and new arrangements, in which it is often difficult to trace the source whence they were derived.

In Egypt the wealth of ancient remains, in particular of Roman pillars, rendered the task easy; and mosques were enclosed and palaces designed and built with less thought and less trouble than had occurred almost anywhere else. The same happened in Barbary and in Spain. In the latter country, especially, a re-arrangement of Roman materials was all that was required. It was only when these were exhausted, after some centuries of toil, that we find the style becoming original; but its form was not that of Syria or of Egypt, but of Spanish birth and confined to that locality.

When the Turks conquered Asia Minor, their style was that of the Byzantine basilicas which they found there, and when they entered Constantinople they did not even care to carry a style with which they were familiar across the Bosphorus, but framed their mosques upon a type of church peculiar to that city, of which Sta. Sophia was the crowning example.

It is true that, after centuries of practice most of these heterogeneous elements became fused into a complete style. This style possesses so much that is entirely its own as to make it sometimes difficult to detect the germs, taken from the older styles of architecture, which gave rise to many of its most striking peculiarities. These, however, are never entirely obliterated. Everywhere the conviction is forced

[1] Abulfeda, ed. Reiske, vol. i. p. 32.

upon us that originally the Moslems had no style of their own, but adopted those which they found practised in the countries to which they came. In other words, the conquered or associated people still continued to build as they had built before their conversion, merely adapting their former methods to the purposes of their new religion. After a time this Mahometan element thus introduced into the styles of different countries produced a certain amount of uniformity,—increased, no doubt, by the intercommunications arising from the uniformity of religion. In this way at last a style was elaborated, tolerably homogeneous, though never losing entirely the local peculiarities due to the earlier styles out of which it rose, and which still continue to mark most distinctly the various nationalities that made up the great Empire of Islam.

CHAPTER III.

SYRIA AND EGYPT.

CONTENTS.

Mosques at Jerusalem — El-Aksah — Mosque at Damascus — Egypt — Mosques at Cairo — Other African buildings — Mecca.

CHRONOLOGY.

The Hejira	A.D. 622	Ibn Touloun at Cairo	A.D. 876
Caliph Omar builds Mosque at Jerusalem	637	El-Azhar	981
Amrou—Mosque at Old Cairo	642	Sultan Barkook	1149
Abd el-Malek builds El-Aksah, at Jerusalem	691	Kaloun	1284
Caliph Walid builds Mosque at Damascus	705	Sultan Hassan	1356

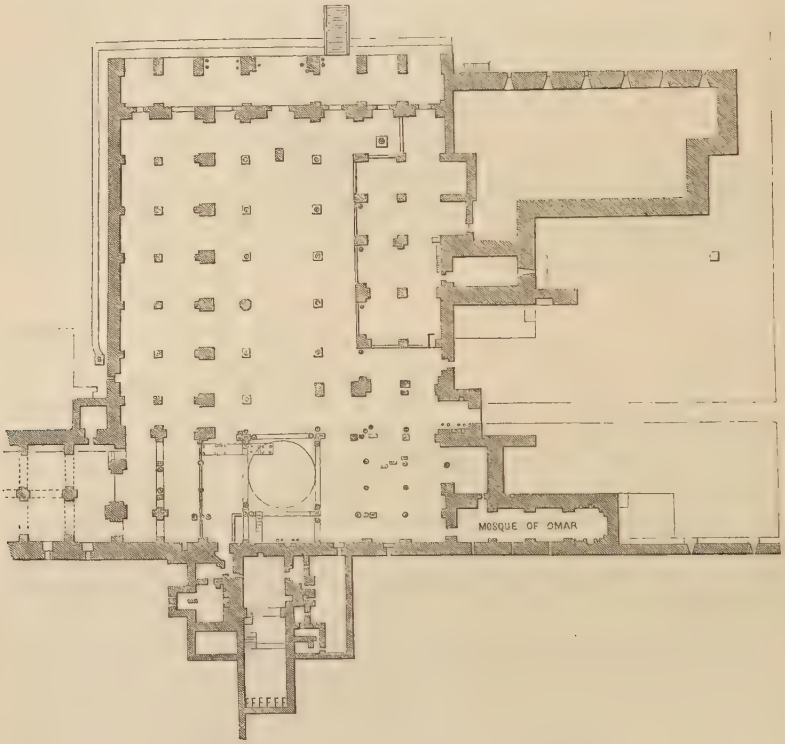
As before mentioned, the earliest mosque of which we have any record was that built by Mahomet himself at Medina. As, however, it contained apartments for his wives, and other rooms for domestic purposes, it might perhaps be more properly denominated a dwelling-house than a mosque. Indeed sacred buildings, as we understand them, seem to have formed no part of the scheme of the Mahometan dispensation. The one temple of this religion was the Kaabah at Mecca, towards which all believers were instructed to turn when they prayed. As with the ancient Jews—one Temple and one God were the watchwords of the faith.

When, however, the Mahometans came among the temple-building nations, they seem early to have felt the necessity of some material object—some visible monument of their religion; and we find that Omar, when he obtained possession of Jerusalem, in the 15th year of the Hejira, felt the necessity of building a place of prayer towards which the faithful might turn, or rather which should point out to them the direction of Mecca.[1]

According to the treaty of capitulation, in virtue of which the city was ceded to the Moslems, it was agreed that the Christians should retain possession of all their churches and holy places; and no complaint is made of even the slightest attempt to infringe this article during the following three centuries. On the other hand, it was

[1] For the particulars of the building of the mosque, I must refer the reader to my work on the 'Ancient Topography of Jerusalem,' where he will find them stated at length.

stipulated that a spot of ground should be ceded to Omar, in which he might establish a place of prayer. For this purpose the site of the old temple of the Jews was assigned to him by the patriarch; that spot being considered sacred by the Moslems, on account of the nocturnal visit of the prophet, and because they then wished to conciliate the Jews, while, at the same time, the spot was held accursed by the Christians on account of the Lord's denunciation and Julian's impious attempt to rebuild it. Here Omar built a small mosque, which still



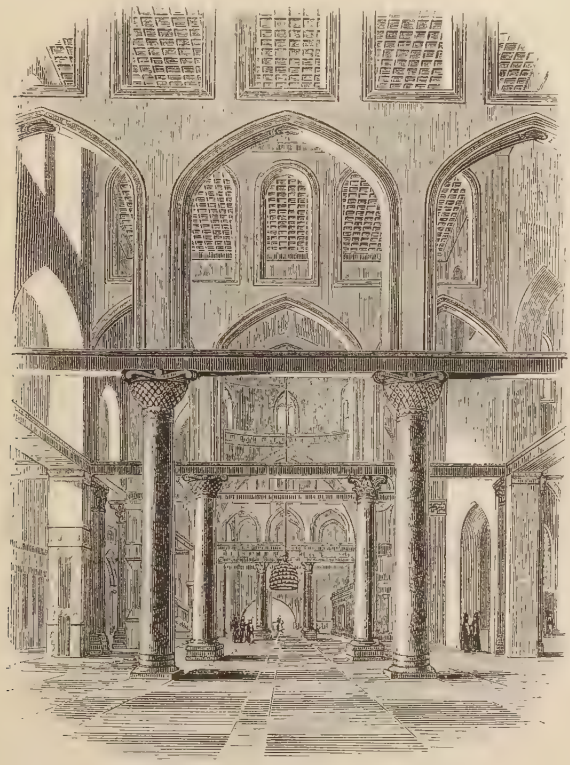
918. Plan of the Mosque el-Aksah at Jerusalem. Scale 100 ft. to 1 in.

exists; but all the traditions about the place have become so confused by subsequent interchanges between the Christians and themselves, that it is difficult to say whether it is the chamber bearing the name, on the east of the Aksah, or that to the west of the same mosque, known as the mosque of the Mogrebins. Most probably it is the former.

As might be expected from the simplicity of Omar's character, his poverty, and his hatred of everything like ostentation, his mosque is a very simple building, being merely a plain vaulted cell, about 18 ft. wide by nearly 80 in length; it may, however, have extended a

little farther westward originally, and a portion of it may have been cut off when the neighbouring Aksah was built, and included within its walls.[1]

The troubles which, during the next half-century, succeeded the murder of Ali and his sons, seem to have been unfavourable to building or any of the arts of peace, and no record has yet been brought to light of any important structure erected during that period. In the 69th year of the Hejira, Abd el-Malek, the Caliph of Damascus, deter-



919. View in the Mosque el-Aksah at Jerusalem.

mined to erect a mosque at Jerusalem. His objects were to set up that city as a place of pilgrimage in opposition to Mecca, which was then in the possession of a rival, and to carry into effect what was at one time understood to have been the intention of Mahomet, namely, to convert the temple of Jerusalem into the holy place of his new religion, instead of that of Mecca. These ulterior purposes were never realised, in consequence of the violent opposition which the project met with from the Jews.

[1] The mosque of the Mogrebins is also a plain vaulted apartment, 25 ft. by 173.

The mosque which Abd el-Malek erected still remains tolerably unaltered to the present time.[1] The plan (woodcut No. 918) will show that it is not unlike a Christian basilica of seven aisles, and of considerable dimensions, being 184 ft. wide by 272 in length over all, thus covering about 50,000 sq. ft., or as much as many of our cathedrals. It has a porch which is a later addition, but has not the usual square court in front, which was an almost invariable accompaniment of Christian basilicas of that date, and still more so of mosques; indeed, these latter took their form from the gradual reduction of the depth of the church-portion of the arrangement, and the increase of the court, which eventually became the mosque itself.

"The interior is supported," says an Arab historian,[2] "by 45 columns, 33 of which are of marble, and 12 of common stone,"—many of them no doubt taken from more ancient buildings,—"besides which there are 40 piers of common stone." Arculf, a Christian monk, who saw it shortly after its erection, describes it as a square building, capable of containing about 3000 persons, and mentions the curious peculiarity of the pillars being connected by beams, showing that the construction was then the same as we see now, as is shown in the woodcut (No. 919), which is a view taken across the southern end of the building. The pier-arches are pointed throughout, but above this is a range of openings with circular heads.

This building, with its adjuncts, remained the only place of prayer belonging to the Mahometans for three centuries after its erection. During the Crusades it was occupied by the knights, who took the name of Templars from residing in a building which was known to occupy the site of the Temple[3] of the Jews. On the recovery of the city it again became the principal mosque, and remains so to this day.

As an architectural object the Aksah is of no great importance. It has no feature of beauty externally except the northern porch, which was added in the fourteenth century. The interior is spacious but barn-like, and has no particular elegance either of arrangement or detail; but it must also be added that it suffers very considerably from its juxtaposition with the Dome of the Rock. The perfection of the internal arrangements of that church, and the beauty of its late classical details, make up a whole so nearly perfect that there are few buildings that would not suffer by the comparison, more especially one built by so unarchitectural a people as the Arabs, at so early a part of their career.

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[1] This mosque was first made known to the West by the labours of Messrs. Catherwood, Arundale, and Bonomi. It has since been published by M. de Vogüé and others, and has been open to the inspection of travellers for some time past.

[2] Mejr ed-Deen. 'Fundgruben des Orients,' vol. ii. p. 83.

[3] The fact of its never having been doubted till the 19th century that the Aksah stands within the precincts of the Jewish Temple, is in itself a sufficient proof that no Christian had ever anything to do with the building of any part of it.

Mosque at Damascus.

As an architectural object the great mosque at Damascus is even more important than the Aksah, and its history is as interesting. The spot on which it stands was originally occupied by one of those small Syrian temples, surrounded by a square *temenos*, of which those at Palmyra and Jerusalem are well-known examples. The one in question was, however, smaller, being only 450 ft. square; and we do not know the form of the temple which occupied its centre. This temple was converted into a Christian church by Theodosius (395-408), and dedicated to St. John the Baptist, whose chapel still exists within the precincts of the mosque.

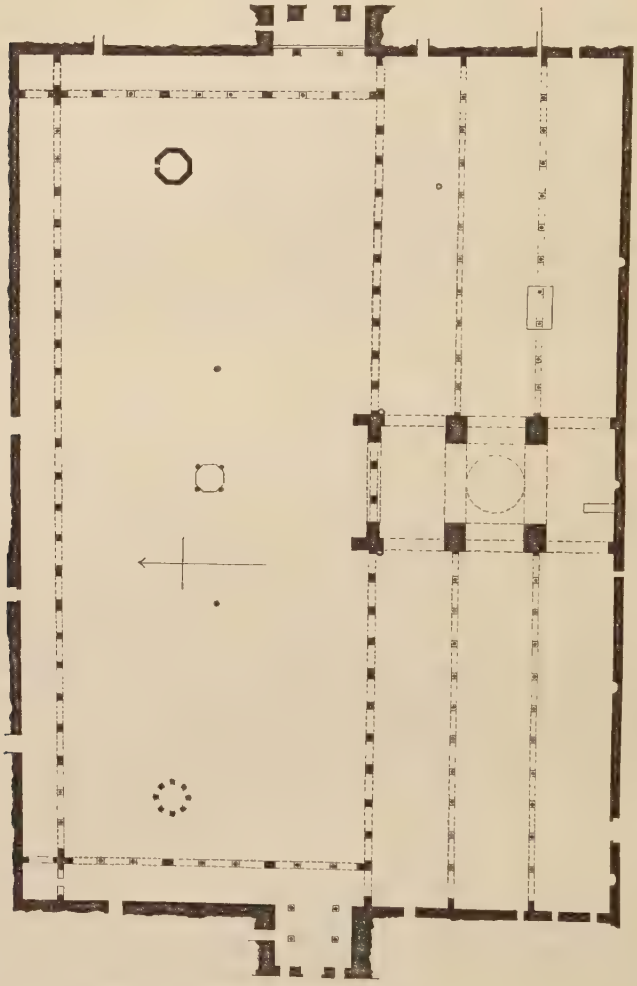
According to Jelal ed-deen,[1] the church remained the joint property of the Christians and Moslems, both praying together in it—or, at least, on the east and west sides of a partition run through it from the fall of the city in the year of the Hejira 14 (A.D. 636) to the time of the Caliph Walid in the year 86. He offered the Christians either four desecrated churches in exchange for it, or threatened to deprive them of one which they held on sufferance. As soon as the matter was settled, it is said, he pulled down the Christian church, or at least part of it, and in ten years completed the present splendid mosque on its site, having first procured from the emperor at Constantinople fit and proper persons to act as architects and masons in its construction.

If the building were carefully examined by some competent person, it might even now be possible to ascertain what parts belonged to the heathen, what to the Christians, and what to the Moslems. At first sight it might appear that the covered part of the mosque is only the Christian church, used laterally like that at Ramleh; but its dimensions —126 ft. by 446—are so much in excess of any three aisled church of that age, that the idea is hardly tenable. On the whole, it seems probable that we must consider that the materials which had first been collected for the Temple, and were afterwards used in the church, were entirely rearranged by the Mahometans in the form in which we find them.

Like all buildings in the first century of the Hejira, it was so badly done that nearly all the pillars of the court have since that time been encased in piers of masonry. The walls have been covered up with plaster, and whitewash has obliterated the decoration which once existed, and which is still visible where the plaster has peeled off. It is still, however, interesting from its history, venerable from its age, and important from its dimensions. These are, externally, 508 ft. by 320, and the enclosed court 400 ft. by 160. So that, in so far as size is concerned, it may rank among the first of its class; and it has always been considered so sacred, that repairs and additions have

[1] 'History of Jerusalem,' translated by the Rev. M. Reynolds, p. 409 *et seq.*

constantly been made to it since its erection, more than eleven centuries ago; but, as in the case of the Aksah, the result is far from satisfactory. In this respect, these two buildings form a most singular contrast with the Dome of the Rock at Jerusalem. That is perfect—solemn and solid, and one of the most impressive buildings in the



920. Plan of Mosque at Damascus. By Captain Wilson, R.E. Scale 100 ft. to 1 in.

world, both externally and internally; while the erections of the Moslems are ricketty, in spite of all repairs, and produce no impression of greatness notwithstanding their dimensions and antiquity.

The additions made by the Moslems to the mosque at Hebron (woodcut No. 808) are mean and insignificant to the last degree; and

beyond these, it is difficult to say what there is in Syria built by them that is worthy of attention.

There are some handsome fountains at Jerusalem, some details at Hasbeiya, a few large khans at Beisan and elsewhere, and some very fine city gates and remnants of military architecture; but the tombs are insignificant, and except the two mosques described, there seems to be no example of monumental architecture of any importance. The one building epoch of the country occurred when the Roman influence was at its height, during the first five centuries of the Christian era. Since that time very little has been done worthy of record; and before it nothing, that, from an architectural point of view, would deserve a place in history.

Egypt.

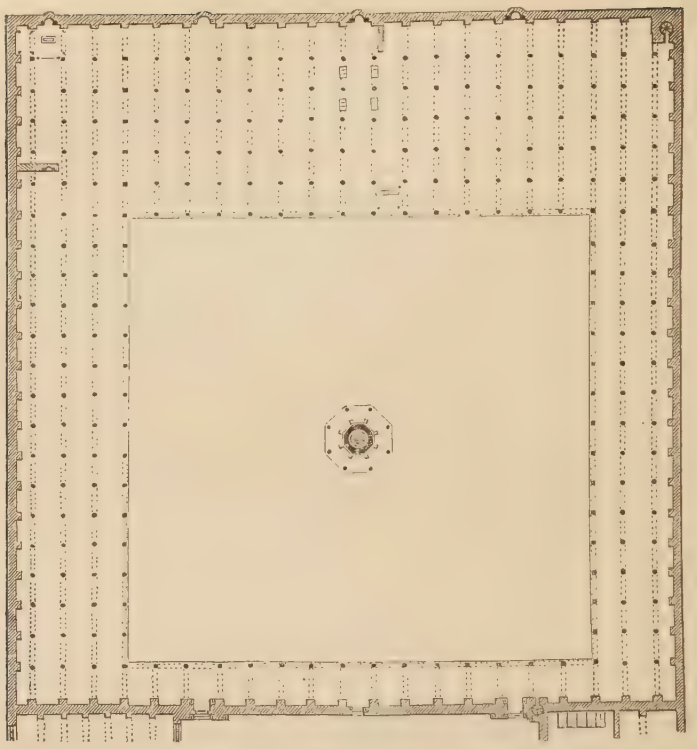
In Egypt our history begins with the mosque which Amrou, in the 21st year of the Hejira (A.D. 642) erected at Old Cairo; its original dimensions were only 50 cubits, or 75 ft. long, by 30 cubits, or 45 ft. wide. Edrisi[1] says that it was originally a Christian church which the Moslems converted into a mosque; and its dimensions and form would certainly lead us to suppose that, if not so, it was at least built after the pattern of the Christian churches of that age. As early, however, as the 53rd year of the Hejira it was enlarged, and again in the 79th; and it apparently was almost wholly rebuilt by the two great builders of that age, Abd el-Malek and Walid, the builders of the mosques of Jerusalem and Damascus.

It probably now remains in all essential parts as left by these two Caliphs, though frequently repaired, and in some parts probably altered by subsequent sovereigns of Egypt. In its present state it may be considered as a fair specimen of the form which mosques took when they had quite emancipated themselves from the Christian models, or rather when the court before the narthex of the Christian church had absorbed the basilica, so as to become itself the principal part of the building, the church part being spread out into a mere deep colonnade, and its three apsidal altars modified into niches pointing towards the sacred Mecca.

As will be seen from the plan (woodcut No. 921), it is nearly square (390 ft. by 357), and consists of a court-yard, 255 ft. square, surrounded on all sides by porticoes, supported by 245 columns taken from older edifices of the Romans and Byzantines. These were joined together by brick arches of circular form,[2] tied at their springing by

[1] Translated by Jaubert, tom. i. p. 303. The particulars of the description in the text are taken from M. Girault de Prangey, 'Monumens Arabes,' compared with M. Coste's 'Edifices de Caire.'

[2] M. Coste makes all these arches pointed. M. de Prangey states that they are all circular; the truth being that they are partly one, partly the other.



921. Mosque of Amrou, Old Cairo. From Coste's 'Architecture Arabe.' Scale 100 ft. to 1 in.

wooden beams, as in the Aksah, and covered by a wooden roof. All this part of the mosque, however, has been so often repaired and renovated, that but little of the original details can now remain.

922. Arches in the Mosque of Amrou. From G. de Prangey's Work.

Of the original mosque, or perhaps church, the only part that can with certainty be said to exist is a portion of the outer wall, represented in woodcut No. 922, which possesses the peculiarity of being built with pointed arches, similar in form to those of the Aksah at Jerusalem. They are now built up, and must have been so at the time of one of the earlier alterations; still they are, from their undoubted antiquity, a curious contribution to the much-contested history of the pointed arch. Notwithstanding the beautiful climate of Egypt, the whole mosque is now in a sad state of

degradation and decay, arising principally from its original faulty construction. Owing to the paucity of details, many of M. Coste's restorations must be taken as extremely doubtful.

From the time of the great rebuilding of the mosque of Amrou under Walid, there is a gap in the architectural history of Egypt of nearly a century and a half, during which time it is probable that no really great work was undertaken there, as Egypt was then a dependent province of the great Califat of the East. With the recovery, however, of something like independence, we find one of its most powerful rulers, Ibn Touloun, commencing a mosque at Cairo (A.D. 876), which, owing to its superior style of construction, still remains in tolerable perfection to the present day.

Tradition, as usual, ascribes the design to a Christian architect, who, when the Emir declined to use the columns of desecrated churches for the proposed mosque, offered to build it entirely of original materials. He was at first thrown into prison through the machinations of his rivals; but at last, when they found they could not dispense with his services, was again sent for, and his design carried out.[1]

Be this as it may, the whole style of the mosque shows an immense advance on that of its predecessor, all trace of Roman or Byzantine art having disappeared in the interval, and the Saracenic architecture appearing complete in all its details, the parts originally borrowed from previous styles having been worked up and fused into a consentaneous whole. Whether this took place in Egypt itself during the century and a half that had elapsed, is by no means clear; and it is more than probable that the brilliant Courts of Damascus and Bagdad did more than Egypt towards bringing about the result. At all events, from this time we find no backsliding; the style in Egypt at last takes its rank as a separate and complete architectural form. It is true, nevertheless, that in so rich a storehouse of materials as Egypt, the architects could not always resist appropriating the remains of earlier buildings; but when they did this, they used them so completely in their own fashion, and so worked them into their own style, that we do not at once recognise the sources from which they are derived.

To return, however, to the mosque of Touloun. Its general arrangement is almost identical with that of the mosque of Amrou, only with somewhat increased dimensions, the court being very nearly 300 ft. square, and the whole building 390 ft. by 455. No pillars whatever are used in its construction, except as engaged corner shafts; all the arches, which are invariably pointed, being supported by massive piers. The court on three sides has two ranges of arcades, but on the side towards Mecca there are five; and with this peculiarity, that instead

[1] See Coste's 'Edifices de Caire,' p. 32, quoting from Makrisi.

of the arcades running parallel to the side, as in a Christian church, or in the mosque of Amrou, they run across the mosque from east to west, as they always did in subsequent examples.

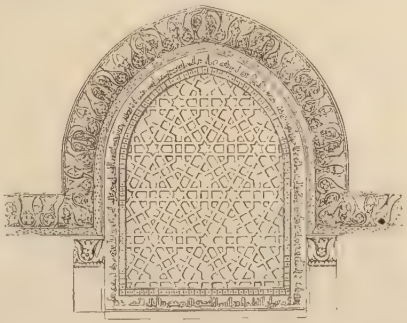
The whole building is of brick, covered with stucco; and fortunately almost every opening is surrounded by an inscription in the

923. Mosque of Ibn Touloun at Cairo. From Coste's 'Architecture Arabe.'

old form of Cufic characters, which were then used, and only used about the period to which the mosque is ascribed, so that there can be no doubt as to its date. Indeed, the age both of the building itself, and of all its details, is well ascertained.

The woodcut No. 923 will explain the form of its arcades, and of the ornaments that cover them. Their general character is that of bold and massive simplicity, the counterpart of our own Norman style. A certain element of sublimity and power, in spite of occasional clumsiness, is common to both these styles. Indeed, excepting the Hassanee mosque, there is perhaps no mosque in Cairo so imposing and so perfect as this, though it possesses little or nothing of that grace and elegance which we are accustomed to expect in this style.

Among the more remarkable peculiarities of this building is the mode in which all the external openings are filled with that peculiar sort of tracery which became as characteristic of this style as that of the windows of our churches five centuries afterwards is of the Gothic style. With the Saracens the whole window is filled, and the interstices are small and varied; both which characteristics are appropriate when the window is not to be looked out of, or when it is filled with painted glass; but of course are utterly unsuitable to our purposes. Yet it is doubtful, even now, whether the Saracenic did not excel the Gothic architects, even in their best days, in the elegance of design and variety of invention displayed in the tracery of their windows. In the mosque of Ibn Touloun it is used as an old and perfected invention, and with the germs of all those angular and flowing lines which afterwards were combined into such myriad forms of beauty.



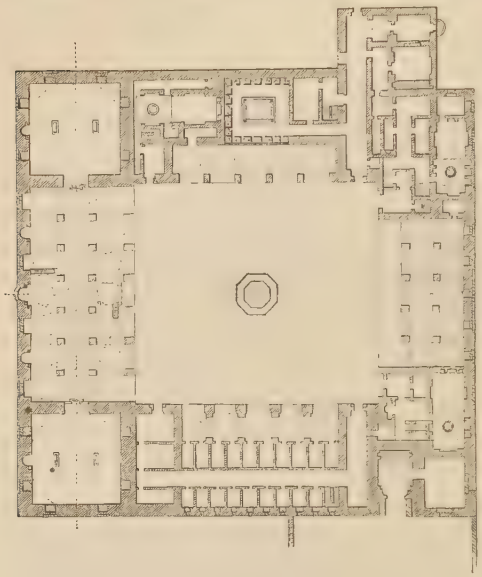
924. Window in Mosque of Ibn Touloun.

It is possible that future researches may bring to light a building, 50 or even 100 years earlier than this, which may show nearly as complete an emancipation from Christian art; but for the present, it is from the mosque of Touloun (A.D. 885) that we must date the complete foundation of the new style. Although there is considerable difficulty in tracing the history of the style from the erection of the mosques of Damascus and Jerusalem to that of Touloun, there is none from that time onwards. Cairo alone furnishes nearly sufficient materials for the purpose.

The next great mosque erected in this city was El-Azhar, or "the splendid," commenced in the year 981, or about a century after that of Touloun, and, though certainly a very magnificent building, and showing a great advance in elegance of detail over that last named, it is far from being so satisfactory, owing to the introduction of ancient pillars in parts, and to masses of wall being

placed on them, only suited to such forms as those used in the mosque of Touloun.

The buildings during the next century and a half are neither numerous nor remarkable for size, though progress is very evident in such examples as exist; and in the middle of the twelfth century we find the style almost entirely changed.



925. Plan of Mosque and Tombs of Sultan Barkook. From Coste. Scale 100 ft. to 1 in.

One of the finest buildings of the last age is that built by Sultan Barkook outside the walls of Cairo (A.D. 1149), which, besides a mosque, contains an additional feature in the great sepulchral chambers which are in fact the principal part of the edifice, and betray the existence of a strong affinity to the tomb-building races in the rulers of Egypt at that time.

The plan and section (woodcuts Nos. 925, 926), though small, will shew the state to which the art had at that period arrived in Egypt. The pointed arch,

926. Section of Mosque of Barkook. From Coste's 'Architecture Arabe.'

as will be observed, is used with as much lightness and elegance as ever it reached in the West.

The dome has become a truly graceful and elaborate appendage, forming not only a very perfect ceiling inside, but a most imposing ornament to the exterior. Above all, the minaret has here arrived at as high a degree of perfection as it ever reached in any after age.

The oldest known example of this species of tower is that of the mosque of Ibn Touloun, but it is particularly ungraceful and clumsy. The minaret in that of Amrou was probably a later addition. Those of the Azhar, which are probably of the date of that mosque, almost equal the one represented in the woodcut; but it is only here that they seem to have acquired that elegance and completeness which render them perhaps the most beautiful form of tower architecture in the world. Our prejudices are of course with the spires of our Gothic churches, and the Indians erected some noble towers; but taken altogether, it is doubtful if anything of its class ever surpassed the beauty and elegance of the minarets attached to the mosques during this and the two or three subsequent centuries.

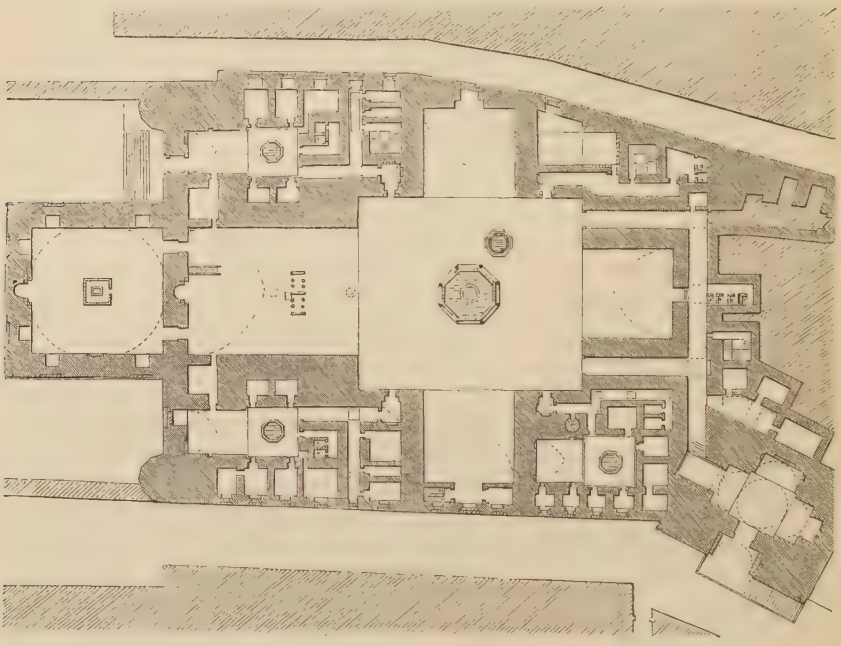
The mosque of Kaloun, and the hospital attached to it (A.D. 1284), are both noble buildings, full of the most elegant details, and not without considerable grandeur in parts. In all except detail, however, they must yield the palm to the next great example, the mosque with which the Sultan Hassan adorned Cairo in the year 1356. In some respects it is one of the most remarkable mosques ever erected in any country, and differing considerably from any other with which we are at present acquainted.

As will be seen from the plan (woodcut No. 927), its external form is very irregular, following on all sides the lines of the streets within which it is situated. This irregularity, however, is not such as to detract from its appearance, which is singularly bold and massive on every side; the walls being nearly 100 ft. in height, and surmounted by a cornice, which adds another 13 ft., and projects about 6 ft. This great height is divided into no less than nine storeys of small apartments; but the openings are so deeply recessed, and the projections between them so bold, that, instead of cutting it up and making it look like a factory, which would have been the case in England, the building has all the apparent solidity of a fortress, and seems more worthy of the descendants of the ancient Pharaohs than any work of modern times in Egypt.

Internally there is a court open to the sky, measuring 117 ft. by 105, enclosed by a wall 112 ft. in height. Instead of the usual colonnades or arcades, only one gigantic niche opens in each face of the court. On three sides these niches measure 46 ft. square; but on that which faces Mecca, the great niche is 69 ft. wide by 90 in depth, and 90 ft. high internally. All four are covered with simple tunnel-

vaults of a pointed form, without either ribs or intersections, and for simple grandeur are unrivalled by any similar arches known to exist anywhere.

Behind the niche pointing towards Mecca is the tomb of the founder, square in plan, as these buildings almost always are, measuring 69 ft. each way, and covered by a lofty and elegant dome resting on pendentives of great beauty and richness. It is flanked on each side by two noble minarets, one of which is the highest and largest in Cairo and probably in any part of the world, being 280 ft. in height and of proportionate breadth. Its design and outline, however, are scarcely so elegant as some others, though even in these respects it must be considered a very beautiful example of its class.

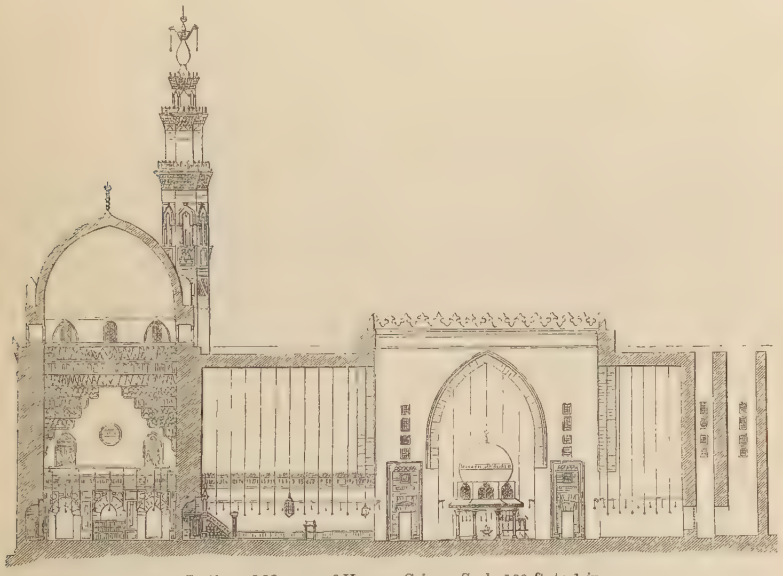


927. Mosque of Sultan Hassan. From Coste's 'Architecture Arabe.' Scale 100 ft. to 1 in.

One of the principal defects of this building is the position of its doorway, which, instead of facing the *kibleh* or niche pointing towards Mecca, is placed diagonally, in the street alongside of the building. It is a very beautiful specimen of architecture in itself; still its situation and the narrow passages that lead from it to the main building detract most materially from the effect of the whole edifice, which in other respects is so perfect. It may have been, that ground could not be obtained for the purpose of placing the entrance in the right position; but more probably it was so arranged for the sake of defence, the whole structure having very much the appearance of a fortalice, and

being, without doubt, erected to serve that purpose, as well as being adapted for a house of prayer.

The mosque El Moyed, erected in 1415 A.D., is a singularly elegant specimen of a mosque with columns. Externally it measures about 300 ft. by 250, and possesses an internal court, surrounded by double colonnades on three sides, and a triple range of arches on the side looking towards Mecca, where also are situated—as in that of Barkook—the tombs of the founder and his family. A considerable number of ancient columns have been used in the erection of the building, but the superstructure is so light and elegant, that the effect is agreeable; and of the "mixed mosques"—*i.e.*, those where ancient materials are incorporated—this is one of the most pleasing specimens.



928. Section of Mosque of Hassan, Cairo. Scale 100 ft. to 1 in.

Perhaps the most perfect gem in or about Cairo is the mosque and tomb of Kaitbey (woodcut No. 929), outside the walls, erected A.D. 1463. Looked at externally or internally, nothing can exceed the grace of every part of this building. Its small dimensions exclude it from any claim to grandeur, nor does it pretend to the purity of the Greek and some other styles; but as a perfect model of the elegance we generally associate with the architecture of this people, it is perhaps unrivalled by anything in Egypt, and far surpasses the Alhambra or the other Western buildings of its age.

After this period there were not many important buildings erected in Cairo, or indeed in Egypt; and when a new age of splendour appears, the old art is found to have died out, and a

renaissance far more injurious than that of the West has grown up in the interval. In modern Europe the native architects wrought out the so-called restoration of art in their own pedantic fashion; but

'929. Mosque of Kaitbey. From Coste's 'Architecture Arabe.'

in the Levant the corresponding process took place under the auspices of a set of refugee Italian artists, who engrafted their would-be classical notions on the Moorish style, with a vulgarity of form and colour of which we have no conception. In the later buildings of

Mehemet Ali and his contemporaries we find the richest and most beautiful materials, used so as to make us wonder how men could so pervert every notion of beauty and propriety to the production of such discordant ugliness.

From its size and the beauty of the materials, the mosque erected by the late Pasha in the citadel of Cairo ought to rival any of the more ancient buildings in the city; but as it is, nothing can be worse or more uninteresting.

Mecca.

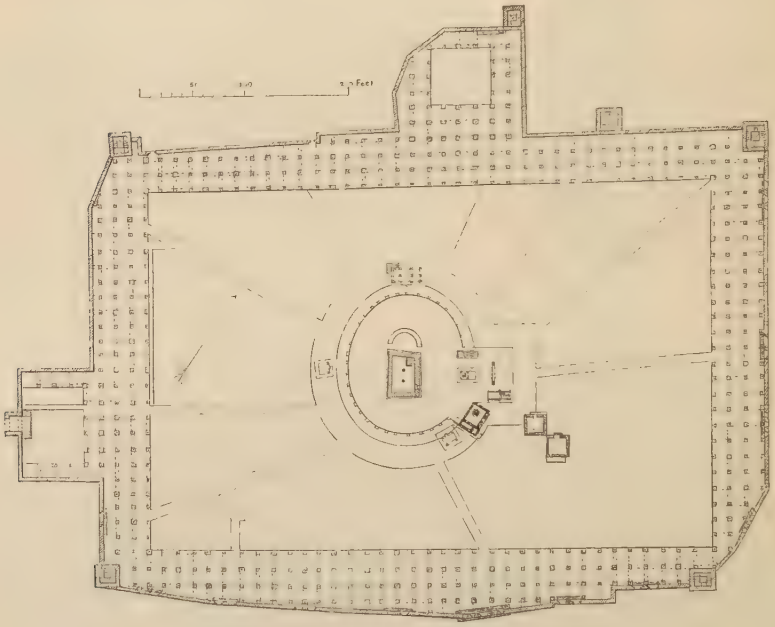
In a history of the Mahomedan religion a description of the mosque at Mecca would naturally take the first place; but in a work devoted to architecture it is sufficient to mention it in connection with Egypt, to whose sultans it owes whatever architectural adornment it possesses. The Kaabah, or holy shrine itself, has no architecture, and is famous only for its sanctity.

In the earlier centuries of the Hejira the area seems to have been surrounded by a cloister of no great magnificence, but after a great fire which occured in 1399, the north and west sides were rebuilt in a more splendid manner by Barkook, Sultan of Egypt, whose mosque and tomb are illustrated, woodcut No. 925. In 1500 El Ghoury, likewise an Egyptian sultan of Memlook race, rebuilt the Bab Ibrahim. The next repairs were due to the sultans of Constantinople. Selim I., in 1572, rebuilt one side, and in 1576 Murad effected a general repair of the whole, and left it pretty much as we now find it.

It need hardly be pointed out that in arrangement it necessarily differs from all other mosques. The precept of the Koran was, that all true believers when they prayed should turn to the Kaabah, and a mosque consequently became a mere indicator of the direction in which Mecca stood; but in this instance, with the Kaabah in the centre, no mihrab or indication was possible. All that was required was a *temenos* to enclose the sacred object, and exclude the outside world with its business from the hallowed precincts.

The principal object in the enclosure is of course the Kaabah, a small, low tower, nearly but not quite square in plan, the longer sides 39 and 40 ft. respectively; the shorter 31 and 33 ft.; its height is 36 ft. The entrance is near one corner, at a height of 6 ft. from the ground It is wholly without architectural ornament, and the upper part is covered by a black cloth, which is annually renewed. Next in importance to this is the Zemzem, or holy spring, which is said to have gushed out on this spot to the succour of Ishmael and his mother when perishing of thirst. These two objects are joined by a railing surrounding the Kaabah, except at one point, where it joins the Zemzem. The railing probably marks the enclosure of the old Pagan temple before Mahomet's time.

These, with some other subordinate buildings, now stand in a court-yard, forming a perfect rectangle of about 380 ft. by 570 internally, surrounded by arcades on all sides. These vary considerably in depth, so as to accomodate themselves to the external outline of the building, which, as shown in the woodcut (No. 930) is very irregular. It is entered on all sides by nineteen gateways, some of which are said to be of considerable magnificence, and it is adorned by seven minarets. These are placed very irregularly, and none of them are of particular beauty or size.



930. Great Mosque at Mecca. From a Plan by Ali Bey.[1]

On the longer sides of the court there are thirty-six arches, on the shorter twenty-four, all slightly pointed. They are supported by columns of greyish marble, every fourth being a square pier, the others circular pillars.

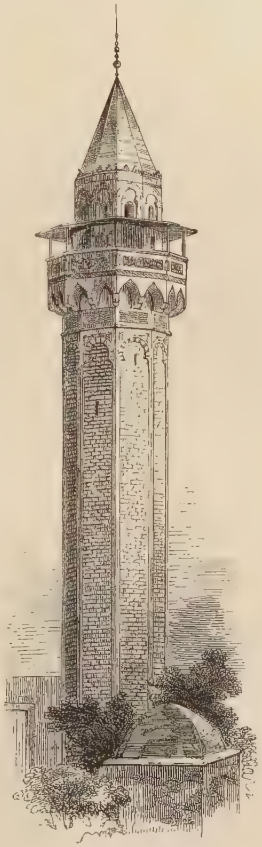
Neither its ordonnance, nor, so far as we can understand, its details, render the temple an object of much architectural magnificence. Even in size it is surpassed by many, and is less than its great rival, the temple of Jerusalem, which was 600 ft. square. Still it is interesting, as it is in reality the one temple of the Moslem world; for though many mosques are now reputed sacred, and as such studiously guarded against profanation, this pretended sanctity is evidently a prejudice

[1] To get it within the page, the scale of the plan is reduced to 200 French, or 214 English ft. to 1 in.

borrowed or inherited from other religions, and is no part of the doctrine of the Moslem faith, which, like the Jewish, points to one only temple as the place where the people should worship, and towards which they should turn in prayer.

Barbary.

There may be—no doubt are—many buildings erected by the Moslems in the countries between Egypt and Spain; but, strange to say, with their love of art, and opportunities for investigating them, the French have not yet made us acquainted with their peculiarities. Even if not magnificent in themselves, they must form a curious link between the styles of the East and the West. In so far as we at present know, Moorish art in Spain is cut off from all connexion with the East, and stands utterly alone. If for no other reason than for the light it would throw on the origin and progress of the Saracenic style in Spain, it would be extremely interesting to know what took place in the north of Africa during the first centuries of the Hejira. The religious bigotry of the inhabitants of the Regency of Tunis is no doubt one cause why we know so little, but more may probably be owing to the indifference of travellers.



931. Minaret at Tunis. From Girault de Prangey.

The mosque at Kairwan is one of those buildings about which it would be especially interesting to know something. That city was long the capital of the African provinces of the empire of the Caliphs, and it was thence that they spread their religion into the centre of the great continent where it is located, and conquered Sicily. The mosque was erected, or at least commenced, in the 1st century of the Hejira, and was built principally from Roman remains found in the neighbourhood, but is now considered so sacred that no Christian is allowed to set foot within its precincts; all that we know is that it is a worthy compeer of the contemporary mosques of Damascus and Cairo, while owing to its secluded station it may probably be less altered than either of these great buildings, and may consequently convey a more correct idea of the architecture of that age than can be gathered from the mosques in great cities.

Tunis possesses some noble edifices, not so old as this, but still of a good age; but, except the minaret represented in the annexed woodcut (No. 931), none of them have yet been drawn in such a manner as to enable us to judge either what they are, or what rank they are entitled to as works of art. This minaret is one of the finest specimens of a particular class. It possesses none of the grace or elaborate beauty of detail of those at Cairo; but the beautiful proportion of the shaft, and the appropriate half-military style of its ornaments, render it singularly pleasing. The upper part also is well proportioned, though altered to some extent in modern times. Unfortunately neither its age nor height is correctly known. It is probably three or four centuries old, and with its contemporary the Hassanee mosque at Cairo, proves that the Saracenic architects were capable of expressing simple grandeur as well as elaborate beauty when it suited them to do so.

Algeria possesses no buildings of any importance belonging to any good age of Moorish art. Those of Constantine are the only ones which have yet been illustrated in an intelligible manner, and they scarcely deserve mention after the great buildings in Egypt and the farther East. I cannot help suspecting that some remains of a better age may still be brought to light; but the French archæologists seem to be wholly taken up with the vestiges of the Romans, and not to have turned their attention seriously to the more modern style, which it is to be hoped they soon will do. In an artistic point of view, at least, it is far more important than the few fragments of Roman buildings still left in that remote province.

CHAPTER IV.

SPAIN.

CONTENTS.

Introductory remarks — Mosque at Cordoba — Palace at Zahra — Churches of Sta. Maria and Cristo de la Luz at Toledo — Giralda at Seville — Palace of the Alcazar — The Alhambra — Sicily.

CHRONOLOGY.

Moors invade Spain	A.D. 711	Alcazar and Giralda at Seville (about)	A.D. 1200
Abd el-Rahman commences Mosque at Cordoba	786	Mohammed ben Alhamar commences Alhambra	1248
El Mansour enlarges Mosque at Cordoba	876	Abou abd Allah, builder of Court of Lions, begins to reign	1325
Caliph Hakeem rebuilds sanctuary at Cordoba	965	Christian conquest of Granada	1492

For the present it is feared we must forego any attempt to trace the steps by which the Saracenic styles reached Spain, or to determine why the forms it assumed when we first meet it there are so different from those we find elsewhere. As a style it is inferior to many other forms of Saracenic art. It has not the purity of form and elegance of detail attained in Egypt, nor the perfection in colouring which characterises the style of Persia, while it is certainly inferior both in elegance and richness to that of India. Still it is to us perhaps the most interesting of the whole, not only because of its proximity to our own shores, and our consequent greater familiarity with it, but because history, poetry, and painting have all combined to heighten its merits and fix its forms on our minds. Few are unacquainted with the brilliant daring of the handful of adventurers who in the 8th century subjugated Spain and nearly conquered Europe, and fewer still have listened without emotion to the sad tale of their expulsion eight centuries afterwards. Much of the poetry and romance of the middle ages owes its existence to the struggles between the Christian and the Paynim knights; and in modern times poets, painters, and architects have all lingered and expatiated on the beauties of the Alhambra, or dwelt in delight on the mysterious magnificence of the mosque at Cordoba. Indeed no greater compliment could be paid to this style than that conveyed by the fact that, till within the last year or two, not one work of any importance has been devoted to the Christian antiquities of Spain, while even England has produced two such

splendid illustrations of the Alhambra as those of Murphy and Owen Jones—works far more magnificent than any devoted to our own national arts. In France, too, Girault de Prangey, Le Normand, Chapuy, and others have devoted themselves to the task; and even in Spain the 'Antigüedades Arabes en España' is the best production of the class. We are thus really familiar with what these strangers did; while the cathedrals of Seville, Toledo, Burgos, and Leon are only partially measured or illustrated; and travellers hurrying to the Alhambra scarce condescend to alight from the diligence to cast a passing glance at their beauties.[1]

This is indeed hardly fair; still it must be confessed it is impossible to come into contact with the brilliant productions of the fervid imagination of a Southern people without being captivated with their beauty; and there is a fascination in their exuberance of ornament and brilliancy of colour which it is impossible to resist when these are used with the daring which characterises their employment here. It is also true that these Moorish architects avoid the vulgarity which would inevitably accompany such exuberance in the hands of Northern artists—a defect which the more delicately organised Asiatic invariably escaped.

CORDOBA.

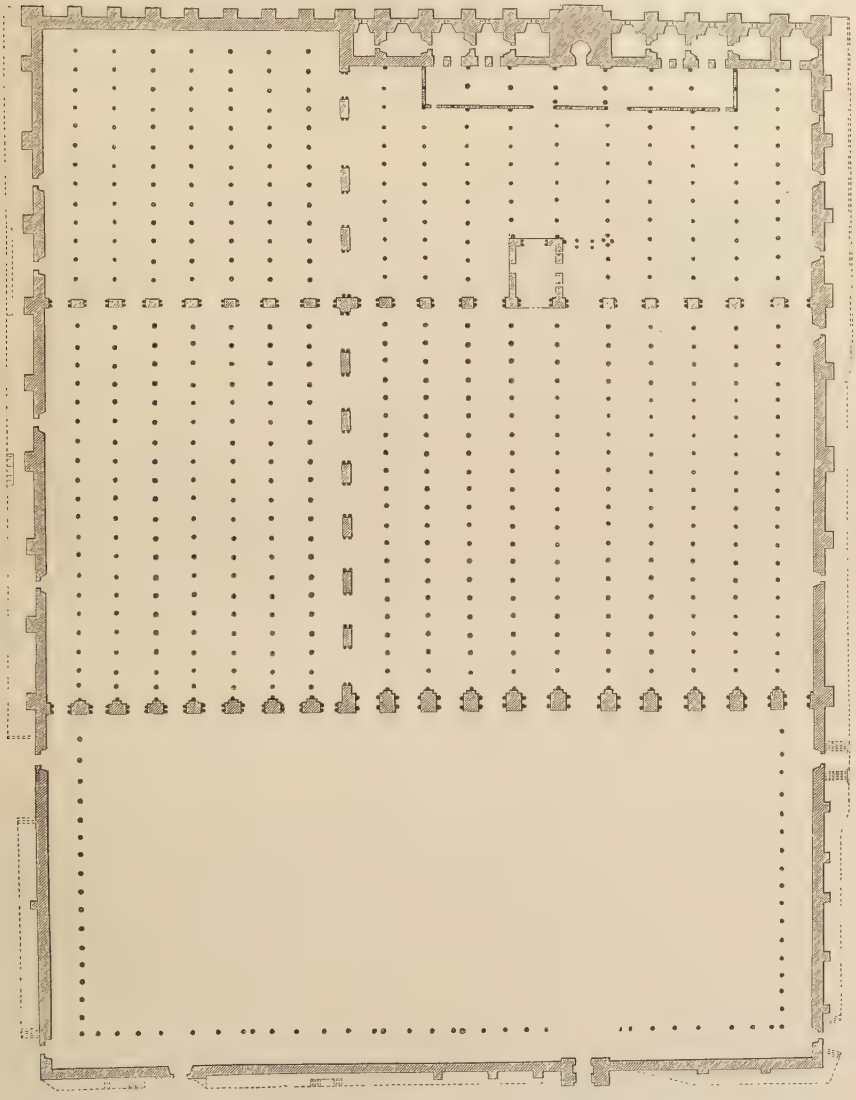
As far as the history of architecture is concerned, by far the most interesting building in Spain is the mosque of Cordoba; it was the first important building commenced by the Moors, and was enlarged and ornamented by successive rulers, so that it contains specimens of all the styles current in Spain from the earliest times till the building of the Alhambra, which was in the latest age of Moorish art.

This celebrated mosque was commenced by Caliph Abd el Rahman in the year 786, and completed by his son Hesham, who died 796. The part built by them was the eleven western aisles, which then formed an edifice complete in itself, not unlike the Aksah at Jerusalem (except in the number of aisles), which the Caliph is said to have been anxious to surpass. It is by no means clear whether it had originally a court in front, but it is certain that the present court owes its existence to another Caliph, of the same name as the founder, in the year 957. As, however, the Christian basilicas of this age had almost always courts in front, it is more than probable that this mosque had

[1] When the great national work, entitled 'Monumentos Architectonicos d'España,' is complete, this reproach will be removed, but that certainly will not be the case for ten or twelve years to come, if it ever does attain completion. The scale is too large, and the total want of principle on which it is carried out renders it useless till it is further advanced. Twenty-three numbers are published, but not one important building is complete, and, excepting a plan of Toledo, not one of the larger buildings is even attempted—Cosas d'España!

one also; for the Mahometan mosques erected in countries previously Christian, borrow much of their arrangement from these edifices.

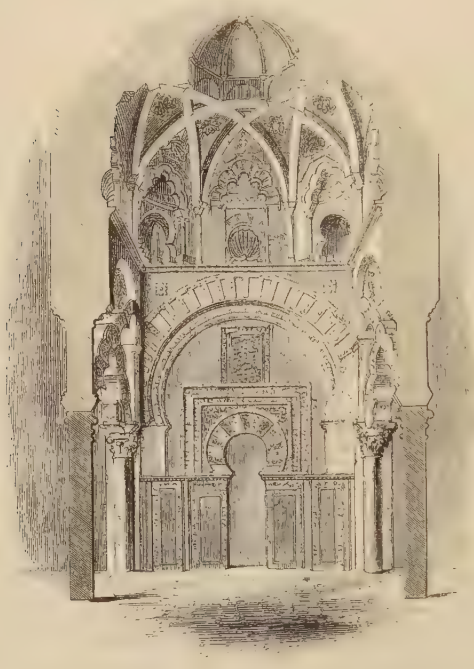
The eight eastern aisles were added by El Mansour (976–1001), thus completing the mosque to a parallelogram of 420 ft. by 375;[1] it



932. Mosque at Cordoba. From a Plan by G. Le Normand. Scale 100 ft. to 1 in.

[1] Notwithstanding the number of plans published of this edifice, it is extremely difficult to ascertain its exact dimensions. Murphy, in his text, makes them 620×440, whereas the scale of his plans shows 570×405. Le Normand's two plans differ considerably from one another. The above is about the mean.

covers therefore 157,500 square feet, being a larger superficies than that of any Christian church except St. Peter's at Rome. It is, however, sadly deficient in height, being only about 30 ft. high to the roofs, and also wants subordination of parts, all the aisles being nearly of the same width, about 22 ft., except the central one of the original eleven, which is 5 ft. wider; the 33 transverse aisles are all similar in breadth; so that altogether it is as deficient in design as the "hall of a thousand columns" of a Hindu temple, and produces pretty nearly the same effect.

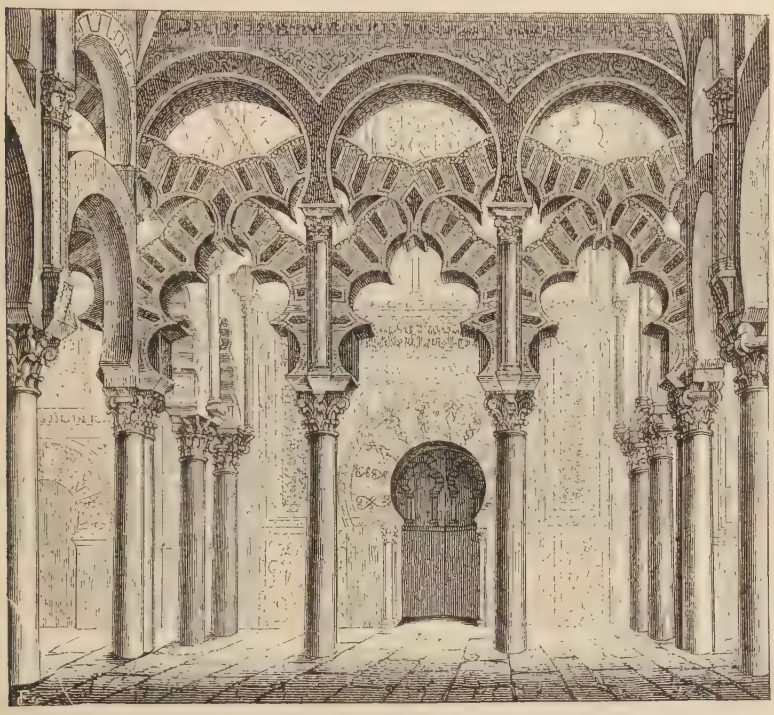


933. Interior of Sanctuary at Cordoba. From a Drawing by Girault de Prangey.

So completely has the building been altered by various repairs and the intrusion of a modern cathedral into its centre, that it is difficult to understand many of the original arrangements, especially how it was lighted, for the few doors towards the court and on the sides would not suffice, and there is no appearance of a clerestory in the centre. The original roof, however, which was of wood richly carved and painted, has been removed, and brick vaults substituted. My own impression is that the upper part of the side-walls was originally an open arcade or colonnade on the two sides at least, which is confirmed by the fact that the side-aisles are narrower than the others exactly by the thickness of the walls; so that, if the walls were low, with columns standing on the outer edge, the width of these aisles would be uniform with the rest.

The Sanctuary was rebuilt by the Caliph Hakeem, A.D. 965, and is the most beautiful and elaborate specimen of Moorish architecture in Spain and of the best age. In the great body of the mosque the architects employed columns brought from the ruined Roman cities of Merida and the neighbourhood, probably those supporting the porticos of the Forum and streets, or the courts of private houses. These being small and low, they were obliged to employ the expedient of

placing arch over arch to eke out their height—to invent in short for the nonce that strange style which gives so peculiar a character to this building. Before the age of El Hakeem, however, the style had time to perfect itself; it was no longer dependent either on the materials or the forms of Roman art. They obtained also at this time the assistance of workmen from Byzantium, with which court the Caliphs of Spain were closely allied; and with their own exquisite taste they made the façade and niches of this part of the building the most elaborate and beautiful specimens of the art in Spain, and which but for



934. Exterior of the Sanctuary, Cordoba. From Rosengarten.

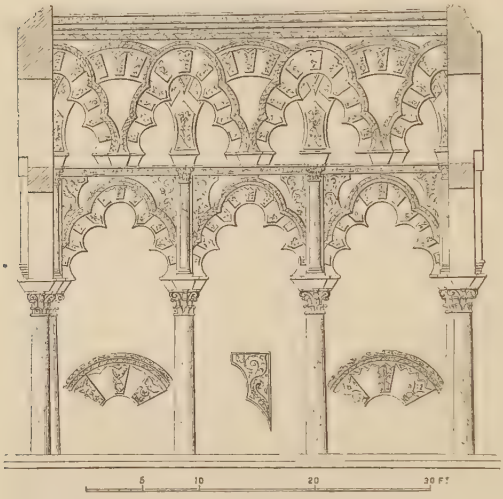
the smallness of the scale and confined nature of the design, might rival anything else found anywhere.

The flowing and graceful forms of the design of this Sanctuary are preferable to the interlacing straight lines of the Alhambra, and the materials, which are in this place white and coloured marbles and true mosaic work, are very much to be preferred to the paint and plaster of the other and more celebrated edifice.

The ornamentation of the screen of columns in front of the Sanctuary seems to be of a later date than the holy place itself, and to have been remodelled to its present form at a time when the wooden

roof was removed and the existing vault substituted. Like every form of architecture which is appropriate and fulfils its purpose, it demands our admiration; but it would be extremely difficult to design forms so ungraceful in themselves, or so clumsily put together, as the interlacing arches of the upper part, and the whole is so bizarre that it requires all its richness of detail, and all its associations, to reconcile a stranger to its appearance.

The same system of ornamentation is carried out in the chapel of Villa Viciosa, erected apparently about the year 1200. It is evidently one of those raised platforms so common in Indian, and indeed in all royal mosques, where the king in his grandeur could pray, uncontaminated by the vulgar crowd. Though a good deal altered and deranged by being converted into a Christian chapel, it still shows, in the age of its greatest originality, the germ of that style which was afterwards elaborated at Granada, and is generally considered as the typical style of the country.



935. Screen of the Chapel of Villa Viciosa, Mosque of Cordoba.

Before leaving this mosque it may be as well to remark that nowhere in any of these styles does the pointed arch appear, or only so timidly as to be quite the exception, not the rule. At an age when its employment was universal in the East, it is singular to observe how completely the Saracenic architects followed the traditions of the country in which they found themselves. At Cordoba they never threw off the influence of the Roman arch, though farther north the pointed arch is by no means uncommon in their buildings.

Contemporary with the rebuilding of the sanctuary of the mosque was the erection of the great palace in the city of Zahra near Cordoba, which, if we may trust the accounts that have been handed down to us, was by far the most wonderful work of the Moors in Spain. This indeed might be expected, for, as has been before remarked, the palaces were the principal buildings of this people, and this being of the very best age might naturally be expected to excel any other edifice erected by them.

Hardly a stone now remains to mark even the spot where it stood.

Its destruction commenced shortly after its completion, in the troubles of the 11th century, even before the city fell into the hands of the Christians, and we therefore depend wholly on the Arabian historians from whom Conde and Murphy compiled their accounts; but as they, with Maccary, describe the mosque in the same page with the palace, and do not exaggerate nor say one word too much in praise of the former, we cannot refuse credence to their description of the latter.

According to these authors the enclosing wall of the palace was 4000 ft. in length E. and W., and 2200 ft. N. and S. The greater part of this space was occupied by gardens, but these, with their marble fountains, kiosks, and ornaments of various kinds, must have surpassed in beauty, and perhaps even in cost, the more strictly architectural parts of the building. 4300 columns of the most precious marbles supported the roofs of the halls; 1013 of these were brought from Africa, 19 from Rome, and 140 were presented by the Emperor of Constantinople to Abd el-Rahman, the princely founder of this sumptuous edifice. All the halls were paved with marbles in a thousand varied patterns. The walls too were of the same precious material, and ornamented with friezes of the most brilliant colours. The roofs, constructed of cedar, were ornamented with gilding on an azure ground, with damasked work and interlacing designs. All, in short, that the unbounded wealth of the caliphs of that period could command was lavished on this favourite retreat, and all that the art of Constantinople and Bagdad could contribute to aid the taste and executive skill of the Spanish Arabs was enlisted to make it the most perfect work of its age. Did this palace of Zahra now remain to us, we could afford to despise the Alhambra and all the works of that declining age of Moorish art.

Among other buildings contained within the great enclosure of the palace was a mosque. This had five aisles, the central one wider than the others. The total length from the Kibleh, or niche pointing to Mecca, to the opposite wall was 97 cubits (146 ft.), the breadth from E. to W. 49 cubits (74 ft.). It was finished in the year 941, and seems to have been one of the last works of the palace, having been commenced in 936. From this description it is clear that it was virtually a five-aisled church, and, as no mention is made of the court, we may fancy that, like the seven-aisled Aksah at Jerusalem, it never had that accompaniment, but was in reality only a basilica extended laterally, but on a small scale.

The church of Sta Maria la Blanca (woodcuts Nos. 690, 691), described in a previous chapter, though built for another people, and for a different purpose, is still so essentially in the Saracenic style, that it may fairly be taken as illustrating the progress which had been made in perfecting it up to its date in the 12th century.

Another very interesting specimen of a Moorish mosque in Spain is that at Toledo, now known as the church of Cristo de la Luz. It is a small square building with four stout short pillars on the floor, dividing it into nine equal compartments, the central one of which is carried up higher than the others, and terminated by a sort of dome, if dome it can be called; for the Spanish architects, working almost wholly from Roman models, never adopted the Byzantine dome to any extent, except perhaps as the roofs of baths. In their mosques and palaces it is only used as an ornamental detail, and never constructed either of stone or brick-work, but merely a carpentry framing covered with stucco or mastic. The Spanish style shows in this a most essential difference from the Eastern, where the domes are so splendid and durably constructed, and where they constitute the actual roofs of the buildings.

936. Church of St. Cristo de la Luz, Toledo. From a Drawing by Girault de Prangey.

Indeed vaulting does not seem under any circumstance to have been an art to which the Spanish Arabs ever paid any attention. Almost all their roofs are of wood carved and painted, or of stucco, not used to imitate stone, but as a legitimate mode of ceiling, which it certainly is, and for fanciful and gorgeous decorations perhaps preferable to more durable, but less manageable materials.

The art resulting from such materials is, it is true, more ephemeral and must take a lower grade than that built up of materials that should last for ever; but such was not the aim of the gay and brilliant Moors, and we must judge them by their own standard, and by their success in attaining the object they aimed at.

In San Cristo the walls are sufficiently solid and plain, and on the whole the forms and decorations are judiciously and skilfully applied to attain the requisite height without raising the columns or giving any appearance of forced contrivances for that purpose. In this respect it shows a considerable advance on the design of the older part of the mosque at Cordoba, than which it is probably at least a century more

modern; but it does not show that completeness which the art attained in the 10th century, when the sanctuary at Cordoba was erected.

These four buildings mark four very distinct stages in the history of the art—the early mosque at Cordoba being the first, the San Cristo de la Luz the second; the third and most perfect is well represented by all the building at the southern end of the mosque at Cordoba; and the fourth by Sta. Maria la Blanca, where all trace of Roman and Byzantine art has wholly disappeared. A fifth stage is represented by another synagogue at Toledo called El Transitu: but this is so essentially merely a gorgeously ornamented room that it hardly deserves to be classed among monumental buildings; besides which this stage is so well illustrated in the palaces of Seville and Granada that it is not necessary to dwell on minor examples. Had the great mosques of Seville, Toledo, or Granada been spared to us, it would perhaps have been easier and better to restrict our illustrations to sacred edifices alone; but they—at least certainly the two first named—have wholly disappeared to make way for the splendid cathedrals which stand where they once stood, and which have obliterated nearly every trace of their previous existence. In the northern cities the national pride and stern bigotry of the Spaniards have long ago effaced all traces of this religion.

The Giralda at Seville.

None of the mosques we have been describing possess minarets, nor is there anything in Spain to replace the aspiring forms of the East except the Giralda at Seville. This is a more massive tower than is, I believe, to be found anywhere else as the work of a Moslem architect. At the base it is a square of about 45 ft., and rises without diminution to the height of 185 ft. from the ground; to this a belfry was added in 1568 by Ferdinand Riaz, making it 90 ft. higher; and unfortunately we have nothing to enable us to restore with certainty the Saracenic termination which must have been displaced to make room for this addition. In the annexed woodcut (No. 937) it is represented as restored by Girault de Prangey, and from a comparison with the towers of Fez and Morocco, erected by the same king, it is more than probable it was thus terminated originally. It is difficult nevertheless to reconcile oneself to the idea that the upper part was not something more beautiful and more in accordance with the base. In the East the Mahomedan architects would certainly have done something better; but here, from the want of familiarity with tower-architecture, and from the want of any circular or domical forms for the termination of towers or sky-lines, this inartistic form may have been adopted. The lower part is certainly much more

beautiful; the walls are relieved with panels to just such an extent as is required for ornament without interfering with the construction or apparent solidity of the tower, while the windows are graceful and appropriate, and in such number as seems required. In this respect it contrasts pleasingly with the contemporary Campanile at Venice, which, though very nearly of the same dimensions, is lean and bald compared with this tower at Seville. So indeed are most of the Italian towers of the same age. All these towers seem to have been erected for very analogous purposes, for the Giralda can never have been meant as the minaret of a mosque, to be used for the call to prayer; nor can we admit the destination sometimes ascribed to it by those who surmise that it may have been merely meant for an observatory. Most probably it was a pillar of victory, or a tower symbolical of dominion and power, like many others we have had occasion to allude to in the previous pages of this work. Indeed the tradition is that it was built by King Yousouf to celebrate his famous victory of Alarcos, gained in the year 1195, in which year its construction was commenced. As such it is superior to most of those erected in Europe in the middle ages, but far inferior, except in size, to the Kootub Minar, and many others still found in various parts of Asia.

237. Giralda, Seville. From a Drawing by Girault de Prangey.

The Alcazar at Seville.

The Alcazar[1] at Seville was an older palace, and perhaps also at one time a more magnificent one than the Alhambra itself. Hence it would be a most interesting example of the Mahomedan style, were it not that it has been much dilapidated in subsequent ages, and its character destroyed by alterations and so-called improvements after it fell into the hands of the Christians. It is more than probable that the best parts of it belong to the same age as the Giralda—the end of the 12th and beginning of the 13th century—and that it continued to receive additions till the city was taken by the Christians in 1248. A careful examination of the building by some one intimate with all the

[1] Alcazar = el-Kasr, "the Castle."

peculiarities of the style might distinguish the ancient parts from the later Christian additions, especially those perpetrated by Don Pedro the Cruel (1353–1364), who, in an inscription on the walls, claims the merit of having rebuilt it. Thus the history of this palace is not of much importance, since it is not so much older than the Alhambra as to mark another style, nor so complete as to enable us to judge of the effect of the art as perfectly as we can in that celebrated palace.

The Alhambra.

It was after his expulsion from Seville (1248) that Mohammed ben Alhamar commenced the present citadel of the Alhambra, at which both he and his successors worked continually till the end of the 13th century. It does not appear that any of the more important buildings now found there were erected by these monarchs. From the accession of Abou-el-Walid (1309) to the death of Yousouf (1354) the works of the present palace seem to have been carried on uninterruptedly, and it is to this half-century that we must refer all the essential parts of the palace now found in the citadel.

As will be seen from the annexed plan, it consists principally of two oblong courts; the richest and most beautiful, that of the Lions (A A), running east and west, was built by Abou Abdallah (1325–1333). The other, the court of the Alberca (B B), at right angles to the former, is plainer and probably earlier. Restorers generally add a third court, corresponding with that of the Lions, which they say was removed to allow of the erection of the palace of Charles V. (X X), which now protrudes its formal mass most unpleasingly among the light and airy constructions of the Moors. My own impression is that, if any thing did stand here, it was the mosque, which we miss, although we know that it existed, and tradition points to this side as its locality. though it certainly was not the apartment at that angle which now goes by that name. It must, like all Spanish mosques, have faced the south, and was most probably destroyed by the first Christian conquerors of Granada. Indeed it is not unlikely that the Christian palace above mentioned, which stands strangely unsymmetrically with the other buildings, follows the lines of the old mosque. This could be in great measure determined if we could rely upon the bearings of the different courts and buildings as given in the plans hitherto published.

The principal entrance to the Alhambra seems always to have been at the southern end of the court of the Alberca. This part does seem to have been altered or pulled down to make way for the palace of Charles V. The court was originally called, apparently from the pool of water which always occupied its centre, El Birkeh. It is 138 ft. long by 74 wide, the longer sides being singularly, and in

such a place ungracefully, plain. The end to the south terminates with a double arcade of very beautiful design; and that to the north with a similar one, but only one storey in height, crowned by the tower enclosing the great Hall of the Ambassadors (c), to which the Court is practically an ante-room. This is an apartment 35 ft. square, and

Plan of the Alhambra Granada. From G. Le Normand.

about 60 in height, roofed by a polygonal dome of great beauty of design, and covered, like the walls, with arabesque patterns of the greatest beauty. One of its most charming peculiarities, however, is the deeply-recessed windows, looking down on the city, and beyond that commanding a view of the delicious Vega, and the mountains that bound it. It is one of the most beautiful scenes in the world, of which the architect availed himself with the eye of a true artist, who knew how to combine nature and art into a perfect whole.

The other court, called that of the Lions (A A), from the beautiful fountain supported by twelve conventional-looking animals so called, is smaller (115 ft. by 66 from wall to wall), but far more beautiful and elaborate than the other; indeed, with the apartments that surround it, this is the gem of Arabian art in Spain—its most beautiful and most perfect example.[1] It has, however, two defects which take it entirely out of the range of monumental art: the first is its size, which is barely that of a modern parish church, and smaller than many ball-rooms; the second its materials, which are only wood covered with stucco. In this respect the Alhambra forms a perfect contrast to such a building as the Hall at Karnac, or any of the greater monumental edifices of the ancient world, and, judged by the same standard, would be found lamentably deficient. But, in fact, no comparison is applicable between objects so totally different. Each is a true representative of the feeling and character of the people by which it was raised. The Saracenic plaster hall would be totally out of place and contemptible beside the great temple-palace of Thebes. No less would the granite works of Egypt be considered monuments of ill-directed labour if placed in the palaces of the gay and luxurious Arab fatalist, to whom the present was everything, and the enjoyment of the passing hour all in all.

The shafts of the pillars that surround the Court of Lions are far from being graceful in themselves, being more like the cast-iron props used by modern engineers than anything else. Their capitals, however, are very gracefully moulded, and of a form admirably adapted for the support of the superstructure they were destined to bear, and the pillars themselves are so gracefully grouped, alternately single and coupled, and their alignment is so completely broken by the projecting portico at each end, that they cease to be prominent objects in themselves, and become mere accessory details. The arcades which they support are moulded in stucco with a richness and beauty of ornament that is unrivalled. There is in this no offence to good taste: indeed work executed in plaster *ought* to be richly decorated, otherwise it is an unsuccessful attempt to imitate the simplicity and power that belongs to more durable and more solid materials. It should therefore always be covered with ornament, which was never elaborated with more taste and consistence than here.

At the upper end of this court is an oblong hall, called that of Judgment (D), and on either side two smaller rooms, that "of the Abencerrages" (E) on the south, and that called "of the Two Sisters" (F) opposite, the latter being the most varied and elegant apartment of the

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[1] A perfect copy of this Court was reproduced by Mr. Owen Jones at the Crystal Palace in 1854. Except being slightly curtailed in plan, every detail and every dimension is identical with the original.

whole palace. The walls of all these are ornamented with geometric and flowing patterns of very great beauty and richness, and applied with unexceptionable taste for such a decoration; but it is in the roofs and larger arcades that the fatal facility of plaster becomes most apparent. Instead of the simple curves of the dome, the roofs are made up of honeycombed or stalactite patterns, which look more like natural rock-work than the forms of an art, which should be always more or less formal and comprehensible at a glance, at least in its greater lines and divisions. There is perhaps no instance where a Saracenic architect has so nearly approached the limits of good taste as here, and it requires all the countervailing elements of situation, and comparison with other objects, to redeem it from the charge of having exceeded those limits.

Behind the Hall of the Two Sisters, and on a lower level, are situated the baths (G)—beautiful in some respects, and appropriately adorned, but scarcely worthy of such a palace.

Besides the edifices mentioned above, there is scarcely a town in Spain, once occupied by the Moors, that does not retain some traces of their art. These traces, however, are generally found in the remains of baths, which from their nature were more solidly built than other edifices, and were generally vaulted with bricks—frequently with octagonal domes supported on twelve pillars, as those in the East. These in consequence have survived, while the frailer palaces of the same builders have yielded to the influence of time, and their mosques have disappeared before the ruthless bigotry of their successors. None of the baths, however, seem to be of sufficient importance to require notice.

In Spain we entirely miss the tombs which form so remarkable a feature of Saracenic architecture, wherever any Turanian blood flows in the veins of the people. The Moors of Spain seem to have been of purely Semitic race, either importations from Arabia or the descendants of the old Phœnician settlers on the southern coast; and among them, of course, it would be absurd to look for any indications of sepulchral magnificence.

If the Moors of Spain had practised tomb-building to as great an extent as some of their brethren further east, this circumstance would, in all probability, have given a more monumental character to their style of architecture. True domes would certainly have been introduced and applied, not only to their mosques but to their palaces, and with them all those beautiful arrangements which we find as the invariable accompaniments of domes in the East.

Be this as it may, it is on the whole perhaps fortunate that we possess in Spain a form of Saracenic art from which all feeling of solemnity, and all aspirations for the future, are wholly banished.

No style of architecture is so essentially impressed with the feeling that the enjoyment of the hour is all that should be cared for. It is consequently the gayest, but it is also the most ephemeral, of all the styles of architecture with which we are acquainted.[1]

[1] Nothing need be said here of La Cuba and La Ziza, and other buildings in Sicily, which, though usually ascribed to the Moors, are now ascertained to have been built by the Normans after their conquest of the island in the 11th century. They are Moorish in style, it is true, and were probably erected by Moorish artists, but so were many churches and chapels in Spain, as mentioned above; and I am not aware of any building now extant there which can be safely ascribed to the time when the island was held by the Moslems, or was then erected by them for their own purposes. Till that is ascertained, Sicily of course does not come within the part of our subject which we are now considering.

CHAPTER V.

TURKEY.

CONTENTS.

Mosques of Mahomet II.—Suleimanie and Ahmedjie Mosques—Mosques of Sultanas Validé, and of Osman III.—Civil and Domestic Architecture, Fountains, &c.

CHRONOLOGY.

Conquest of Constantinople by Mahomet II.	A.D. 1453	Mahomet III.	A.D. 1595
Bajazet II.	1481	Ahmed I.	1603
Selim I.	1512	Amurath IV.	1623
Suleiman II., the Magnificent	1520	Mahomet IV.	1649
Selim II.	1566	Suleiman III.	1687
Amurath III.	1574	Ahmed III.	1703
		Mahmood I.	1730

THE latter half of the 15th century witnessed some strange vicissitudes in the fate of the Mahomedan faith in Europe. In 1492 Granada was conquered, and the Moors expelled from the country which they had so long adorned by their arts, and rendered illustrious by their cultivation of the sciences. Of all the races who, at various times, have adopted the faith of Islam, the Spanish Moors seem to have been among the most enlightened and industrious, and the most capable of retaining permanently the civilization they had acquired. They have made way for a people less progressive and more bigotted than any other population in Europe.

Before, however, this misfortune happened in the West, the fairest city of the Christian world, and its most fertile provinces, had fallen a prey to the most barbarous horde of all those who had adopted the Mahomedan religion. For two centuries the Turks had gradually been progressing westward from their original seats in Central Asia, and at last, in 1453, Constantinople itself fell into their power, and for more than a century after this, the fate of Europe trembled in the balance. The failure of the siege of Vienna (1683) turned the tide. Since that time the Christians have slowly and surely been recovering their lost ground; but the Crescent still surmounts the dome of Sta. Sophia.

Had the Turks obtained possession of Constantinople at an earlier date, it is possible that their architecture might have taken a different form from that in which we now find it. But before that event the foundation of St. Peter's at Rome had already been laid. The

old principles of art were already losing their hold on the architects of Europe, a revolution was taking place, and though this would hardly be much felt so far east as the Bosphorus, or materially influence strangers like the Turks, still it must have had some influence, and modified their style to some extent. Be this as it may, we are struck at Constantinople with the same phenomenon which meets us everywhere in the Mahomedan world. Wherever the various nationalities settled who had embraced that faith, they at once adopted the architectural forms of their new country, and set to work to mould and modify them, so as to bring them more into conformity with their special requirements. Nowhere do they seem to have brought their style with them, or thought of forcing that on their new subjects. In this they were wise; and it is what probably all nations would do who had any true knowledge of art, or any true feeling for its purposes. In nine cases out of ten the original people of a country find out the arrangements most suited to their climate, and the forms of construction best adapted to the materials which are available; and to attempt to substitute for these, forms suited to other climates and another class of materials, is what only an Aryan would think of doing. The Turks, though barbarous, belonged to one of the great building races of the world; and so soon as they entered Constantinople, set to work vigorously to vindicate the characteristics of the family.

Besides appropriating seven or eight of the principal churches of the city—with Sta. Sophia at the head of the list—to the new worship, Mahomet II. founded six or seven new mosques, some of them of great magnificence. The chief of these is that which still bears his name, and crowns the highest of the seven hills on which the city stands. To make way for it, he pulled down the Church of the Apostles, which had been the burying-place of the Christian emperors apparently since the time of Constantine, and was consequently an edifice of considerable magnificence. It had, however, been plundered by the Latin barbarians, who sacked the city some time before the Moslems, and it was also so crippled by earthquakes as to be in a dangerous state. In order to effect his purpose, Mahomet employed Christodulos, a Christian resident in Constantinople, to erect on the spot a mosque, which he intended should surpass all others in his empire. How far he was successful we have now little means of judging. An earthquake in 1763 so completely ruined this mosque that the repairs amounted almost to a rebuilding; and as these were carried out with the quasi-Italian details of the latter half of the 18th century, its present appearance probably conveys very little idea either of the form or of the magnificence of the original building. Enough of its form, however, still remains to tell us that, like all Turkish mosques, it was a copy of Sta. Sophia. There is, indeed, nothing in the style we

are now speaking of so remarkable as the admiration which that great creation of the Christians excited in the minds of its Moslem possessors. There are in or about Constantinople at least 100 mosques, erected in the four centuries during which the Turks have possessed that city. Not one of these is a pillared court, like those of Egypt or Syria, nor an arcaded square, like those of Persia or India—none are even extended basilicas, like those of Barbary or Spain. All are copies, more or less modified, of Sta. Sophia; and many of the modifications are no doubt improvements; but none are erected with the same dimensions, none possess the same wonderful richness of decoration, or approach the poetry of design, of their prototype. In all that constitutes greatness in architectural art, the Christian Church still stands unrivalled. No one who has stood beneath the dome of Sta. Sophia will hesitate to admit that the Turks were perfectly justified in their admiration of Justinian's great creation; but the curious thing is, that no Christian ever appreciated its beauties. When, after the troubles of the 7th and 8th centuries, the Greeks again took to building churches, it was such as Sta. Irene, or the Theotokos, churches like those at Pitzounda or Ani, or those of Greece or Mount Athos. Not one single direct copy of Sta. Sophia by Christian hands exists, so far as is known, in the whole world. But the Turk saw and seized its beauties at a glance; and, by constancy to his first affection, saved his architecture from the utter feebleness which has characterized that of Western Europe during the four centuries in which he has been encamped on this side of the Bosphorus.

Among the other mosques built by Mahomet II., the most sacred is that of Eyub, the standard-bearer of the Prophet, whose body is said to have been found on the site of the mosque. Plans and drawings of this mosque might easily have been obtained while our armies occupied Constantinople during the Crimean war; but the opportunity was neglected, and all we have to depend upon is an eye-sketch by Aly Bey.[1] As the mosque in which each Sultan on his accession is girt with the sacred sword, and as the most holy in the empire, it interesting to know more, but we must wait.

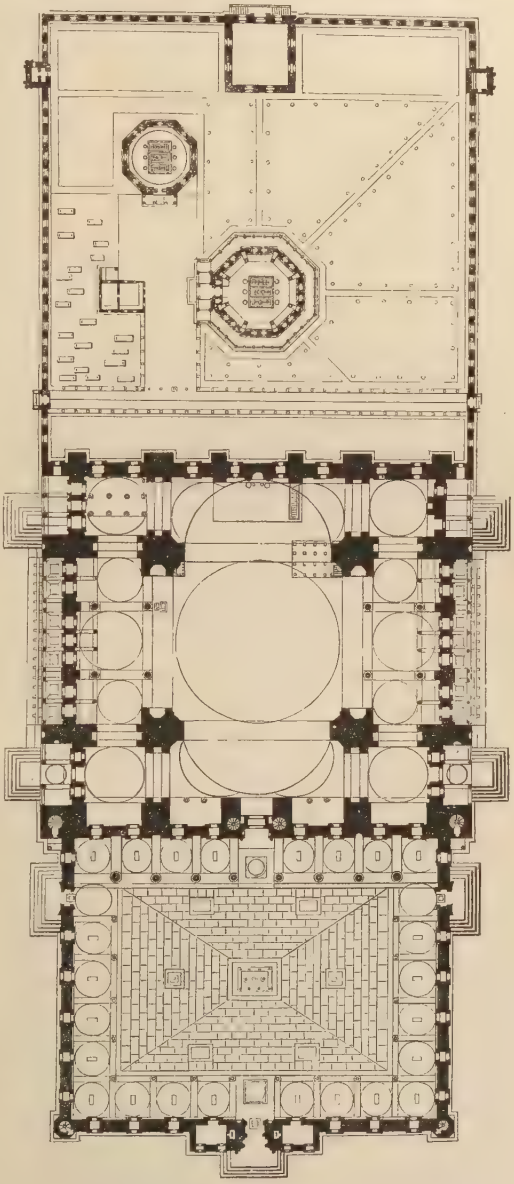
The mosque of Bayazid, 1497–1505, is of the usual type, but not characterized by any extraordinary magnificence. That of Selim I., 1520–1526, has the character of possessing the largest dome of any mosque in the city. I am not aware that it was ever measured, and it does not leave that impression on the eye; but the building is remarkable for the simplicity of its design, and the general propriety of its proportions.

[1] Plate lxxxii.

Suleimanie.

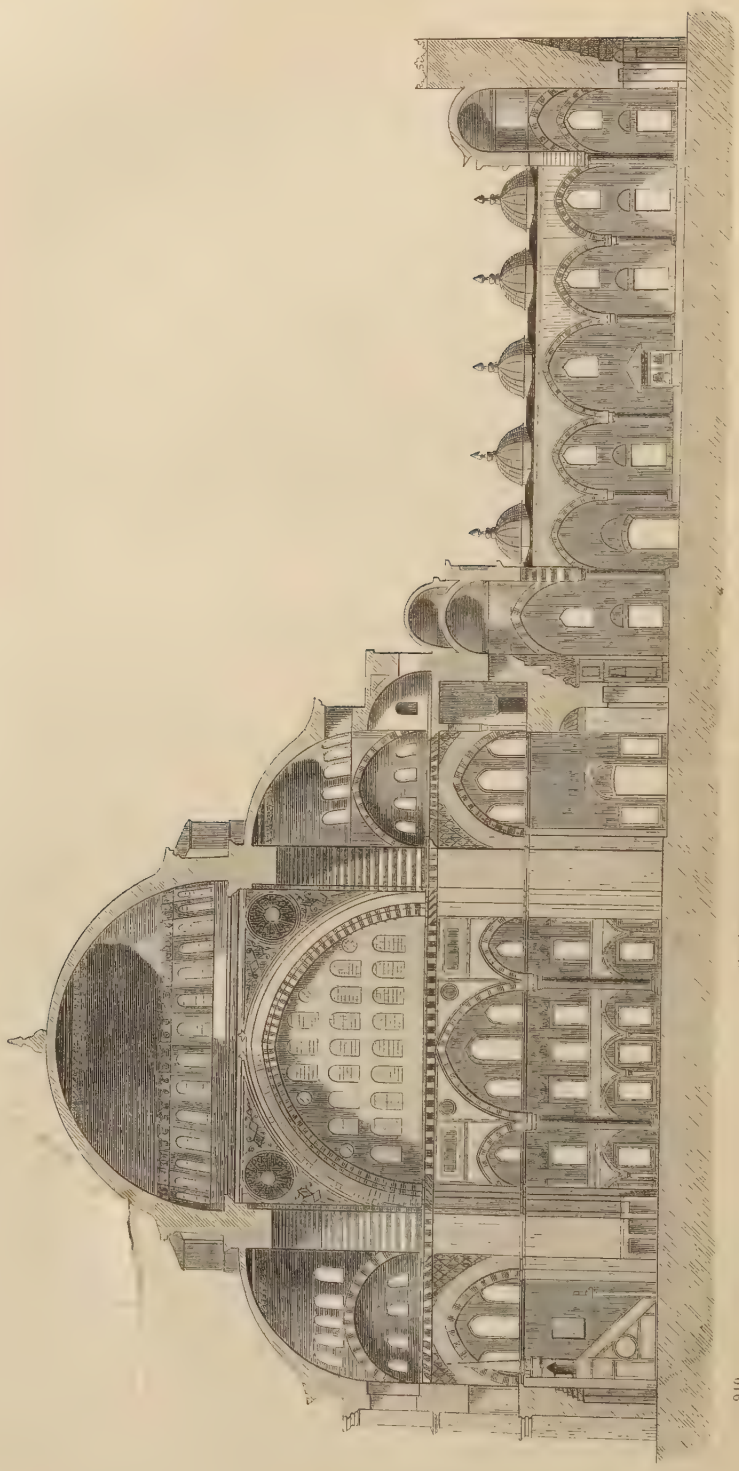
All these were, however, surpassed by that which was erected by Suleiman the Magnificent, between the years 1550–1555. It is still quite perfect in all its constructive parts, and little altered in detail; and as there is every reason to suppose that it equalled, or even surpassed, all others of its class, if it be illustrated the rest will be easily understood.

As will be seen from the plan,[1] the mosque itself is nearly square, 225 ft. by 205 over all externally, and covering between 45,000 and 46,000 sq. ft. In front is a forecourt, 150 ft. by 190 internally, surrounded by an arcade on all sides, and containing the fountains, which are the indispensable accompaniment of all mosques. Behind is the "garden" containing the tomb of the founder and those of his favourite wife and other members of the family. All this, properly speaking, is one design



939. Plan of Suleimanie Mosque. By Texier. Scale 100 ft. to 1 in.

[1] For the plan and section of this mosque I am indebted to the kindness of my friend M. C. Texier, who placed his MS. plans at my disposal for the purpose of being engraved for this work.



940. Section of Suleimanie Mosque. By Texier. Scale 50 ft. to 1 in.

and one building; and all these parts are requisite to complete the establishment of a great Imperial mosque.

Internally the construction rests on four great piers of pleasing and appropriate design; and the screen of windows on each side, under the great lateral arches of the dome, is borne by four monolithic shafts of porphyry of great beauty. These formerly supported statues in the hippodrome, and most probably were brought originally from Egypt. Each is 28 ft. in height, or, with the base and capital, 35 ft. The dome itself is 86 ft. in diameter internally, and 156 ft. in height. This seems a better proportion than that of Sta. Sophia, though the dimensions are so much less that it has not, of

941. View of Suleimanie Mosque. From a Photograph by Bedford.

course, the same grandeur of effect. At Sta. Sophia the dome is 108 ft. in diameter, and 175 ft. in height, or 21 and 19 ft. more respectively. These smaller dimensions, as well as the absence in the mosque of all the mosaic magnificence of the church, and the presence of a good deal of modern vulgarity, renders it extremely difficult to institute any fair comparison between the two buildings. On the whole, it may, perhaps, be said with truth, that the mosque is more perfect mechanically than the church, that the constructive parts are better disposed and better proportioned; but, that for artistic effect and poetry of design, the church still far surpasses its rival, in so far at least as the interior is concerned.

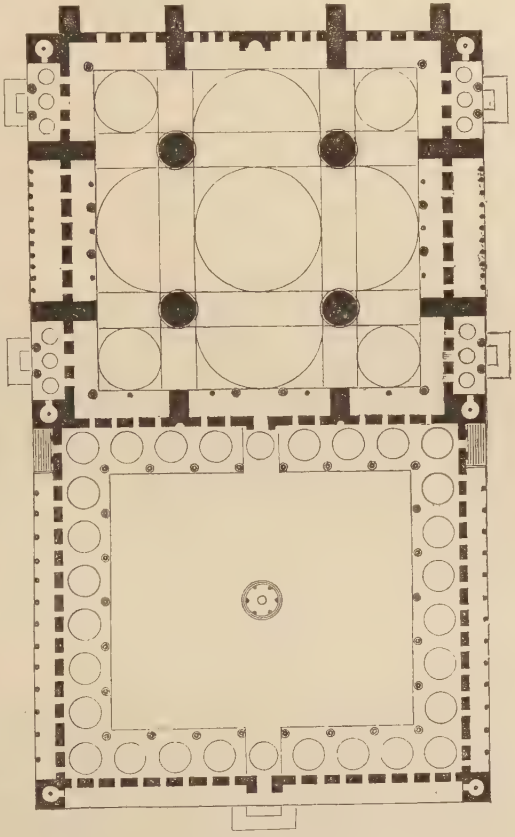
Externally the mosque suffers, like all the buildings of the capital, from the badness of the materials with which it is constructed. Its walls are covered with stucco, its dome with lead, and all the sloping abutments of the dome, though built with masonry, have also to be protected by a metal covering. This, no doubt, detracts from the effect; but still the whole is so massive—every window, every dome, every projection, is so truthful, and tells so exactly the purpose for which it was placed where we find it, that the general result is most satisfactory, and, with one-half the expense of adornment requisite for a Gothic building, as impressive an external effect has been produced.

The tomb of the founder, which stands in the garden behind, avoids these defects. It is built in marble of various colours, and every detail is most carefully elaborated. It is too small—only 46 ft. in diameter externally—to produce any grandeur of effect; but it suffices to show that the architects of those days were quite competent to produce satisfactory designs for the exteriors of their buildings, if they had found appropriate materials in which to execute them.

Next in importance to the Suleimanie, among the Imperial mosques of Constantinople, is that which the Sultan Ahmed commenced A.D. 1608. The mosque itself is in plan somewhat larger than the preceding, measuring 235 ft. by 210, and covering nearly 50,000 sq. ft.; but it is inferior both in design and in the richness or taste of its decorations. As will be seen from the plan (woodcut No. 942), it deviates still further than the Suleimanie from the design of Sta. Sophia; and in the exact ratio in which it diverges from that type, does it fail in producing an artistic effect. Its great defect is, that it is too mechanically regular. In the nave of Sta. Sophia the porportion of length to breadth is practically as two-and-a-half to one. In the Suleimanie it is nearly two to one, but the Ahmedjie is absolutely square. Without asking for the extreme difference between length and breadth which prevails in Gothic cathedrals, a design must have sides, there must be some point towards which the effect tends. In this mosque, as in the Pantheon at Rome, if the plan were divided into quarters, each of the four quadrants would be found to be identical, and the effect is consequently painfully mechanical and prosaic. The design of each wall is also nearly the same; they have the same number of windows spaced in the same manner, and the side of the Kibleh is scarcely more richly decorated than the others. Add to this, that all the windows are glazed with white glass, and that, above the marble wainscoating, whitewash has been unsparingly employed, and it will be easy to understand how the mosque fails in producing the effect which might fairly be expected from its dimensions and the general features of its design. Still, a hall nearly 200 ft. square, with a stone roof supported by only four great fluted piers, is a grand and imposing

object, and has very narrowly missed producing the effect its builders were aiming at.

The external effect is more pleasing than the internal; the mode in which the smaller domes and semi-domes lead up to the centre produces a pyramidal effect that gives a very pleasing air of stability to the outline, and the six tall minarets go far to relieve what otherwise might be monotonous. It is said that this is the only mosque in the Moslem world which has so many of these graceful adjuncts, except the mosque at Mecca, which has seven. The Suleimanie and Sta. Sophia have four; most of the others two, and some only one; but, whatever their number, the form of all is nearly identical with those of the Suleimanie (woodcut No. 941). They are graceful, no doubt, but infinitely inferior to those of Cairo, or, indeed, of any country where this form of tower was long employed. We do not know whence the Turks first got this form, and it is very difficult to understand why they persevered so long in adhering to it, after so many other more beautiful forms had been introduced among their co-religionists in other countries. But so it is; and everywhere its tall extinguisher roof is one of the first objects that warns the traveller that he has passed within the boundaries of the Turkish Empire.



942. Plan of Ahmedjie Mosque. By Texier. Scale 100 ft. to 1 in.

Though very much smaller than those just described, that known as the Prince's Mosque is one of the most pleasing in Constantinople. It was erected in 1548, by order of Sultan Suleiman, by the same architect—Sinan—who designed the great mosque, and who seems to have

been the great architect of the reign of that magnificent monarch. The smaller mosque was erected in memory of his son Mahomet, and as a place of burial for him; and another of his sons—Mustafa—was also laid by his side. In accordance with this destination, this mosque bore a more solemn and gloomier aspect than the great mosques of the city. Their principal defect is the glare introduced through their numerous scattered windows, a defect which in this mosque is remedied with the most satisfactory results.

There are three imperial mosques in the city erected by Sultanas, and all bearing the name of Validé, which has given rise to some confusion in describing them. The most important of them is that at the end of the bridge of boats near the harbour, known as the "Mosque at the Garden Gates." It is somewhat late in date (1665), and has been a good deal whitewashed and otherwise disfigured; but on the whole it is of more artistic design than that of Ahmed, and, when fresh, must have been, for its size, as pleasing as any of the mosques in the city.

The Turks adhered so long to this form, and repeated it over and over again with so little variation that it is extremely difficult to draw a line between what may be said to belong to the middle ages, and what to modern times. As late, for instance, as 1755 the Sultan Osman III. erected a mosque in the Bazaar, which, externally, is as pleasing as any of those in the city, and it requires a very keen eye to detect anything which would indicate that it is more modern than those of the age of Suleiman. It has this peculiarity, however, that there are no semi-domes, and the light is introduced through screens under all the four great arches of the central dome. In another locality the effect might be pleasing, but in the latitude of Constantinople the result is a glare of light which aggravates the usual defect of these designs. Even the Turks seem to feel this, as the mosque is generally known by the name of Nur Osmanlie, or Lantern of Osman, a designation which too correctly describes its leading characteristics.

Civil and Domestic Architecture.

As about one-tenth part of Constantinople is burnt down every year, and the flames visit each quarter in tolerably regular succession, it would be in vain to look for anything worthy of the name of architecture among the temporary wooden structures dignified by the name of the "palaces" of the nobles. Partly from the jealousy of the Government, or partly, it may be, because the Turks have never felt quite secure in their European possessions, they never seem to have affected anything of a permanent character in their dwellings. It might, however, be expected that in the palace of the Sultan something better would be found; but there are few things

more disappointing than a visit to the Seraglio. In situation it is unrivalled, and it has been the habitation of powerful and luxurious sovereigns for more than fifteen centuries, yet it contains nothing that is worthy of admiration, and hardly anything that is even interesting from its associations. There is nothing within the inclosure which will stand comparison even with the plaster glories of the Alhambra; and the contemporary palaces of Persia, or of Delhi and Agra, surpass it to such an extent as to render comparison impossible.

There is one pavilion, the walls of which are covered with Persian tiles, which is pleasing, both from its form and the mode of decoration. Besides this, the various halls being each separate buildings and grouped without formality together, the effect of the whole is picturesque, though neither as parts nor as a whole have they any architectural merit.

Among the minor objects of architectural art none are more pleasing than the fountains which frequently adorn the public places in the provincial cities as well as in the capital; though their outline is by no means remarkable for beauty. They are generally a square block with a niche on each face, from a spout in which the water flows. The whole is crowned by a very deep cornice constructed in wood, but without any brackets or apparent means of support, which true architectural taste so inevitably demands. Their beauty, in consequence, depends almost wholly on their ornamentation. That, however, is of the most elaborate character, and not only pleasing in form, but rich in colour; of the same character, in fact, as that of the Alhambra, and pleasing from the same cause, in spite of defects in form.

It is probable that if the country towns, especially on the Asiatic side of the Bosphorus, were examined with care, examples might be found of domestic architecture exhibiting more care, and of a more permanent character than any in the capital. The true Turk evidently loves art, and has an instinctive appreciation of the harmonies of colour—probably, also, of form, and if allowed an opportunity, would have produced much that is beautiful in architecture. The blood of the various races who inhabit the capital must, however, be very much mixed, and various other circumstances militate against any great development in that quarter. The subject seems worthy of more investigation than has hitherto been bestowed upon it, but the first appearance of the Turks among civilized nations was only as warriors pushing forward and fighting. When at last they settled on the shores of the Bosphorus it was at an age too late for much true architectural development in Europe. On the whole, we ought therefore rather to

be surprised that they did so much, than seek to know why they did not accomplish more. Sinan and Michel Angelo were employed simultaneously in erecting the two great religious edifices of their age in the two old capitals of the Christian world. The mosque at Constantinople is less than one-fourth the size of St. Peter's at Rome, but notwithstanding its comparatively small dimensions, it is far better in design and a much more impressive building than its gigantic Christian rival. If the mosque had been constructed with better materials, and with somewhat increased dimensions, it would have stood a comparison with any building of its class; and even as it is, must be considered as one of the most successful designs of modern times.

BOOK II.

SASSANIAN ARCHITECTURE.

CHAPTER I.

INTRODUCTORY.

The architectural history of the province of Persia,[1] during the last two thousand years, is perhaps more meagre and less satisfactory than that of any other country we are acquainted with which possessed the same amount of civilization and an equal share of material prosperity during so long a period. A good deal of this is, no doubt, owing to the circumstance that the principal cities were built on the plains, where stone was not available as a building material. Seleucia, Ctesiphon, Modain, and Bagdad were all cities of brick, and in that country there is not fuel enough to burn the bricks properly, nor timber of such a character as to form roofs of a nature to protect permanently the frail walls which support them. This, however, is far from being a sufficient cause to account for the almost total absence of buildings during a great portion of the time included in this chapter. Persia Proper is a stony country, full of building materials of the best class, and such cities as Nisibin, Mardin, or Diarbekr, were built at the root of hills where both stone and wood were abundant.

More must probably be ascribed to the character of the inhabitants. So long as the Persian blood was pure, they were too essentially of Aryan stock for us to expect much building magnificence among them. It is true, of course, that the Achæmenians built splendid palaces at Susa and Persepolis; but they were then a small caste

[1] Looked at from an architectural point of view, it is necessary to distinguish carefully between the architectural province of Persia and the political kingdom bearing that name. In order to render the subject intelligible, without endless definitions and repetitions, the former must be considered as including the whole valley of the Euphrates, and as bounded on the east by the watershed of the rivers flowing into the Indus.

governing a people of Turanian or Semitic origin, who were the builders of Nineveh and Babylon, and the new dynasty naturally fell in with the habits of their subjects and pandered to their tastes and feelings. When they were struck down by Alexander, the old history came to an end and the old arts disappeared from the Mesopotamian world. The Seleucidæ built nothing that has come to our knowledge. The Parthians have left no material traces of their existence. The Sassanians have left the remains of some palaces of no great extent, and not remarkable for any beauty of style. We know little—very little—of the architecture of the Caliphs. Even Haroon el-Rashid has left no mark on the face of the country which he rendered so illustrious by his magnificence. It is not till the 11th or 12th centuries that Tartar hordes began to overflow their boundaries on the north and to settle on the fertile plains of the south in sufficient numbers to make their influence felt. We then find mosques and public buildings rising on all sides, gay with every sort of polychromatic decoration, and everywhere crowned with the bulbous dome that, from Moscow to Delhi, marks the presence of the race.

From the 12th century onwards sufficient materials exist to trace the progress of the style, and the monuments have been illustrated and published in quite sufficient detail to enable this to be done to almost any extent that might be desired; but in a general history of architecture the Saracenic art of Persia does not rank high. It has neither the perfection of detail which characterises that of Egypt, nor the variety and poetry of that of India, nor even the grandeur of aspiration that marks the mosques of Constantinople. Still, it is interesting for the beauty of its colours and the elegance of many of the forms employed; and a knowledge of it is indispensable to connect the styles which the Mahomedans elaborated in the West with those which they introduced into the countries east of the Indus.

CHAPTER II.

SASSANIAN ART.

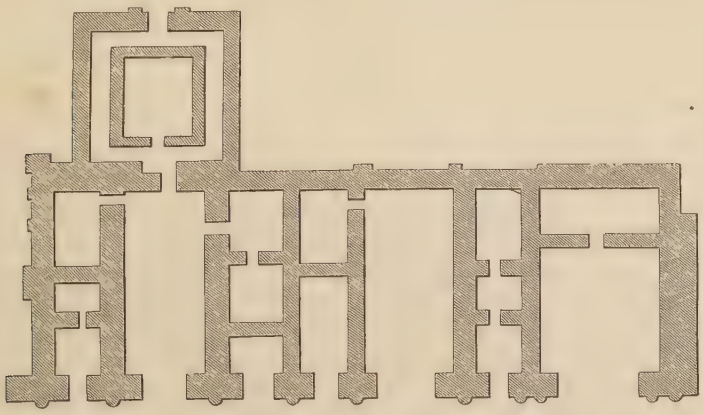
CONTENTS.

Historical notice — Palaces of Diarbekr and Al Hadhr — Domes — Serbistan — Firouzabad — Tak Kesra.

CHRONOLOGY.

Ardeshir or Artaxerxes establishes Sassanian dynasty	A.D. 226	Bahram Gour begins to reign	A.D. 420
Al Hadhr built (about)	250	Firouzabad (about)	450
Tiridates	286–342	Khosru Nushirvan begins to reign	531
Serbistan (about)	350	— builds palace at Ctesiphon (about)	550
		Conquest of Persia by Arabs	641

After a hiatus of nearly six centuries, during which no building now known to exist can be quoted, we again begin to feel that the art had not entirely perished in the populous countries of Central Asia; but even then our history recommences so timidly and with buildings of such uncertain dates as to be very far from satisfactory.



943. Plan of Palace at Al Hadhr. From a Sketch by Mr. Layard. Scale 100 ft. to 1 in.

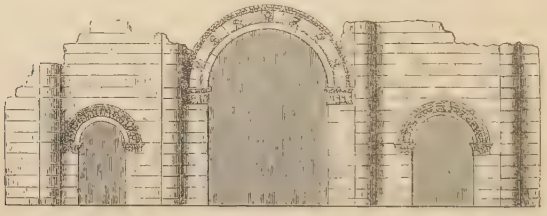
One of the oldest buildings known as belonging to the new school is the palace of Al-Hadhr, situated in the plain, about thirty miles from the Tigris, nearly west from the ruins of Kaleh Shergat.

The city itself is circular in plan, nearly an English mile in

diameter, and surrounded by a stone wall with towers at intervals, in the centre of which stands a walled enclosure, nearly square in plan, about 700 ft. by 800. This is again subdivided into an outer and inner court by a wall across its centre. The outer court is unencumbered by buildings, the inner nearly filled with them. The principal of these is that represented in plan on woodcut No. 943. It consists of three large and four smaller halls placed side by side, with various smaller apartments in the rear. All these halls are roofed by semicircular tunnel-vaults, without ribs or other ornament, and they are all entirely open in front, all the light and air being admitted from the one end.

There can be very little doubt that these halls are copies, or intended to be so, of the halls of the old Assyrian palaces; but that strange mania for vaulted roofs which seized on all the nations of the East as well as on those of the West during the middle ages led the architect on to a new class of arrangements, which renders the resemblance by no means apparent at first sight.

The old halls had almost invariably their entrances on the longer side; but with a vault this would have required immense abutments; and without intersecting vaults, which had not then come into general use, would even in that case have been difficult.



944. Elevation of part of the Palace at Al Hadhr. Scale 50 ft. to 1 in.

The most obvious mode of meeting the difficulty was that adopted here of using the halls as abutments the one to other, like the arches of a bridge; so that, if the two external arches were firm, all the rest were safe. This was provided for by making the outer halls smaller, as shown in the elevation (woodcut No. 944), or by strengthening the outer wall. But even then the architect seems to have shrunk from weakening the intermediate walls by making too many openings in them. Those which do exist are small and infrequent; so that there is generally only one entrance to each apartment, and that so narrow as to seem incongruous with the size of the room to which it leads.

It is by no means clear to what use the square apartment in the rear, with the double wall, was applied. It may have been a temple, but more probably contained a stair or inclined plane leading to the roof or upper rooms, which almost certainly existed over the smaller halls at least.

All the details of the building are copied from the Roman—the

archivolts and pilasters almost literally so, but still so rudely executed as to prove that it was not done under the direct superintendence of a Roman artist. This is even more evident with regard to the griffins and scroll-work, and the acanthus-leaves which ornament the capitals and friezes. The most peculiar ornament, however, is the range of masks carried round all the archivolts of the arches. The only thing known at all similar is the celebrated arch at Volterra with three masks; but here these are infinitely more numerous over all the arches, and form, in fact, the principal features of the decorations.

Even tradition is silent regarding the date of these remarkable ruins. The style of architecture, however, certainly points to a period anterior to the age of Constantine, but not so early as the time of Aurelian and the flourishing days of Palmyra. It is difficult, however, to speak at all confidently, as we are so entirely ignorant of the local circumstances of the place at the time the buildings were erected; and local peculiarities often influence a style as much as the age in which it flourished.

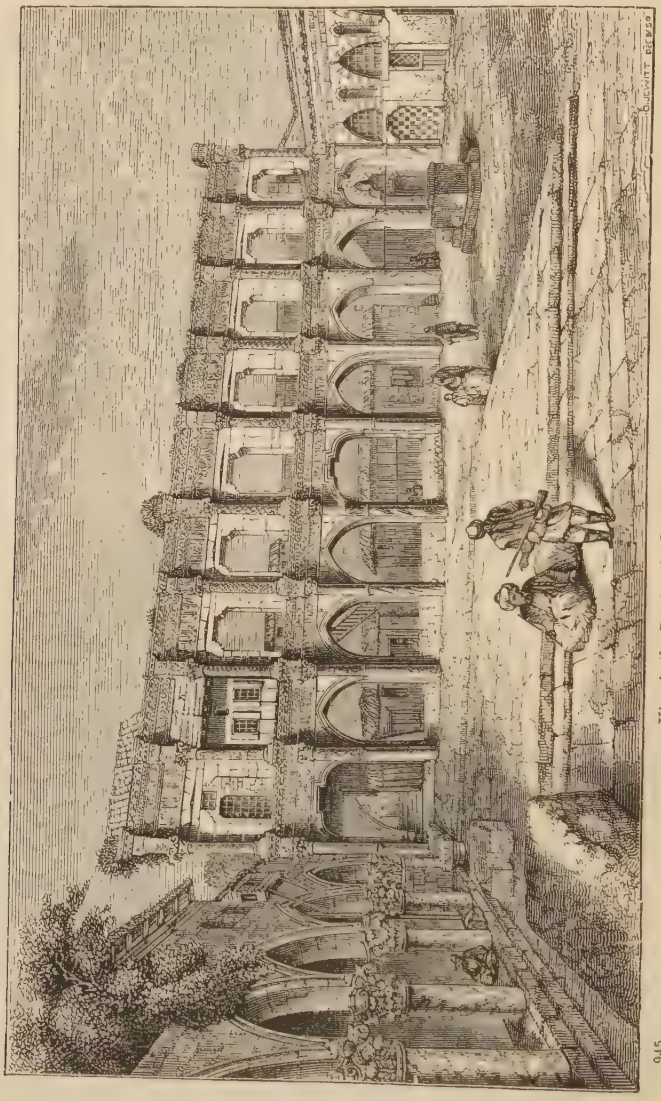
Another building which merits more attention than has hitherto been bestowed upon it is now used as the great mosque at Diarbekr. Neither its history nor even its date is correctly known; but judging from its style, in so far as it can be made out from such drawings as exist, it seems to belong to the age of Tiridates (286–342). The palace—for such it was originally—consists of an oblong court-yard, at either end of which is a building with open arcades in two storeys facing one another—as in the palace of the Hebdomon at Constantinople—and between the two, facing the entrance, is the façade of a church standing on the east side of the court.[1]

The principal of the two wing-buildings is represented on woodcut No. 945. The framework is of a debased Roman style of architecture, very similar to parts of the buildings of Diocletian or Constantine at Spalatro or Jerusalem, but, being far removed from the influence of the capital, the details display a wildness which is not to be found in any contemporary examples in Italy or the further west. The upper range of openings seem to be of the same date with the decorative details; but the lower range of arches look—if correctly drawn—so much more modern that one cannot help fancying they belong to another age. Till, indeed, the building is examined by some competent person, it must remain doubtful whether what we now see is the re-erection of an older building of the date of the Cufic inscriptions[2] which cover its walls, or whether all the essential parts are of the date

[1] For the principal part of the information regarding this building I am indebted to M. C. Texier. He possesses detailed drawings of every part, but they have never been published.

[2] These inscriptions were all copied by

above assigned to it, and the pointed arches and inscriptions subsequent additions. The building is rich, and so interesting that it is to be hoped that its history and peculiarities will before long be investigated.



View in the Court of the Great Mosque at Diarbekr.

945.

With the accession of the Sassanians, A.D. 223, Persia regained much of that power and stability to which she had been so long a

Consul Taylor, and brought home to this country. I never could learn, however, that they were translated. I feel certain they were never published, and cannot find out what has become of them.

stranger. The capture of the Roman Emperor Valerian by the 2nd king of the race, A.D. 260, the conquest of Armenia and victories over Galerius by the 7th (296), and the exploits of the 14th, Bahram Gaur, and his visit to India and alliance with its kings, all point to extended power abroad; while the improvement in the fine arts at home indicates returning prosperity and a degree of security unknown since the fall of the Achæmenidæ.

These kings seem to have been of native race, and claimed descent from the older dynasties; at all events they restored the ancient religion, and many of the habits and customs with which we are familiar as existing before the time of Alexander the Great.

As before remarked, the fire-worship does not admit of temples, and we consequently miss that class of buildings which in all ages best illustrates the beauties of architecture; and it is only in a few scattered remains of palaces that we are able to trace the progress of the style. Such as they are, they indicate considerable originality and power, but at the same time point to a state of society when attention to security hardly allowed the architect the free exercise of the more delicate ornaments of his art.

The Sassanians took up the style where it was left by the builders of Al Hadhr, but we only find it after a long interval of time, during which changes had taken place which altered it to a considerable extent, and made it in fact into a new and complete style.

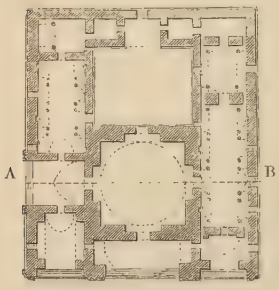
They retained the great tunnel-like halls of Al Hadhr, but only as entrances. They cut bold arches through the dividing walls, so as to form them into lateral suites. But above all they learnt to place domes on the intersections of their halls, not resting on drums, but on pedentives,[1] and did not even attempt to bring down simulated lines of support to the ground. Besides all these constructive peculiarities, they lost all trace of Roman detail, and adopted a system of long reed-like pilasters, extending from the ground to the cornice, below which they were joined by small semicircular arches. They in short adopted all the peculiarities which are found in the Byzantine style as carried out at a later age in Armenia and the East. We must know more of this style, and be able to ascribe authentic dates to such examples as we are acquainted with, before we can decide whether the Sassanians borrowed the style from the Eastern Romans; or whether they themselves were in fact the inventors from whom the architects of the more western nations took the hints which they afterwards so much improved upon.

The various steps by which the Romans advanced from the con-

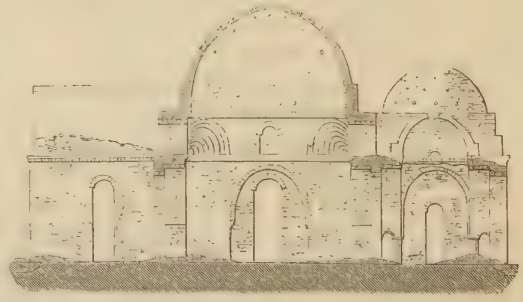
[1] These are expedients for filling up the corners of square lower storeys on which it is intended to place a circular superstructure. They somewhat resemble very large brackets or corbels placed in an angle. Examples of them have been given in speaking of Byzantine architecture, and others will be found in the chapter on Mahomedan Architecture in India, further on.

struction of buildings like the Pantheon to that of the church of Sta. Sophia at Constantinople are so consecutive and so easily traced, as to be intelligible in themselves without the necessity of seeking for any foreign element which may have affected them. If it really was so, and the architecture of Constantinople was not influenced from the East, we must admit that the Sassanian was an independent and simultaneous invention, possessing characteristics well worthy of study. It is quite certain too that this style had a direct influence on the Christian and Moslem styles of Asia, which exhibit many features not deriveable from any of the more western styles.

A few examples will render this clearer than it can be made in words. The plan and section (woodcuts Nos. 946 and 947) of a small but interesting palace at Serbistan will explain most of the peculiarities of the style. The entrances, it will be observed, are deep tunnel-like arches, but the centre is covered by a dome resting on pendentives, not filling up the angles by a great bracket, as was usual



946. Plan of Palace at Serbistan. Scale 100 ft. to 1 in.



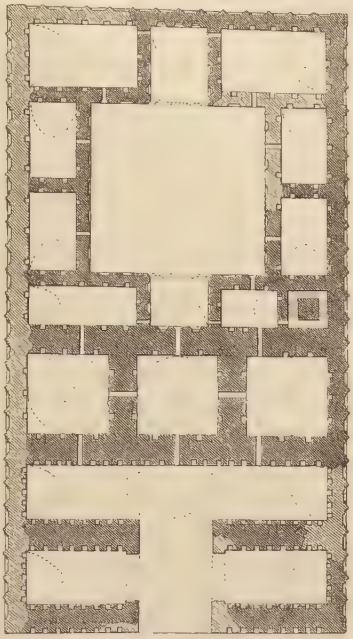
947. Section on line A B of Palace at Serbistan. From Flandin and Coste's 'Voyage en Perse.' Scale 50 ft. to 1 in.

with the Romans, but constructed by throwing a series of arches across them, as shewn in the woodcut, so as to convert the square into the circular form required. The dome too is elliptical, not semicircular, and is the next step to the pointed or conical dome, which was necessarily introduced in the more rainy climates further north. Being of brick, the building depended externally on stucco for its ornamentation; and this having perished, we are left without the means of judging of its details.

In the lateral halls, pillars are placed at some distance from the walls, from which heavy transverse ribs spring. The builders thus obtained the means of counteracting the thrust of the vault, without breaking the external outline by buttresses, and without occupying much room on the floor, while at the same time these projections added considerably to the architectural effect of the interior. The date of the building is not correctly known, but it most probably belongs to the age of Shapour in the middle of the fourth century.

The palace at Firouzabad is probably a century more modern, and

erected on a far more magnificent scale, being in fact the typical building of the style, so far at least as we at present know.



948. Plan of Palace at Firouzabad. From Flandin and Coste. Scale 100 ft. to 1 in.

As will be seen in the plan, the great central entrance opens laterally into two side chambers, and the inner of these into a suite of three splendid domed apartments, occupying the whole width of the building. Beyond this is an inner court, surrounded by apartments all opening upon it.

As will be perceived from the woodcut No. 949, representing one of the doorways in the domed halls, the details have nothing Roman about them, but are borrowed directly from Persepolis, with so little change that the style, so far as we can now judge, is almost an exact reproduction. The portion of the exterior represented in woodcut No. 950 tells the same tale, though for its prototype we must go back still further to the ruins at Wurka—the building called Wuswus at that place (see vol. i. p. 146) being a palace arranged very similarly to these, and adorned externally by panellings and reeded pilasters, differing from these buildings only in detail and arrangement, but in all essentials so like them as to prove that the Sassanians borrowed most of their peculiarities from earlier native examples.

949. Doorway at Firouzabad. From Flandin and Coste.

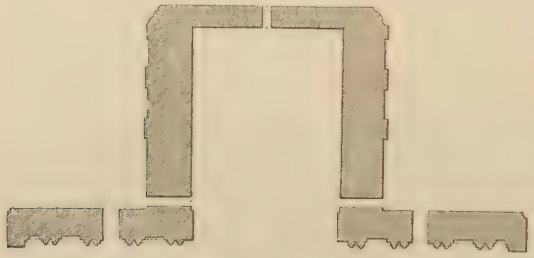
The building itself is a perfectly regular parallelogram, 332 ft. by 180, without a single break, or even an opening of any sort, except the one great arch of the entrance; and externally it has no ornament but the repetition of the tall pilasters and narrow arches represented in woodcut No. 950. Its aspect is thus simple and severe, but more like a gigantic Bastile than the palace of a gay, pavilion-loving people, like the Persians.

Internally the arrangement of the halls is simple and appropriate, and, though somewhat too formal, is dignified and capable of considerable architectural display. On the whole, however, its formality is perhaps less pleasing than the more picturesque arrangements of the palace at Serbistan last described.

950. Part of External Wall, Firouzabad. No scale.

Another century probably elapsed before Khosru (Nushirvan) commenced the most daring, though certainly not the most beautiful, building ever attempted by any of his race; for to him we must ascribe the well-known Tâk Kesra (woodcuts Nos. 951, 952), the only important ruin that now marks the site of the Ctesiphon of the Greeks—the great Modain of the Arabian conquerors.

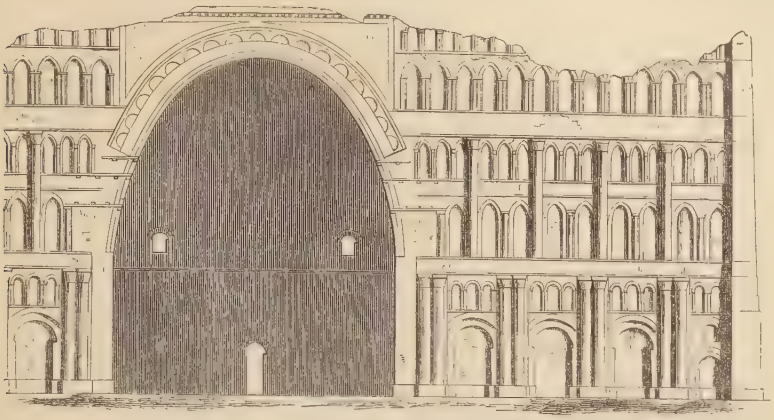
As it is, it is only a fragment of a palace, a façade similar in arrangement to that at Firouzabad, but on a much larger scale, its width being 370 ft., its height 105. Instead of the plain circular arch of the earlier example, the architect has here attempted the section of one of his domes—hoping thus to avoid some, at least, of the lateral thrust—to obtain, in short, by an ellipse, what the Gothic architects managed by the pointed arch. As a mere scientific point of construction it is not clear that the Sassanian did not take the best mode of attaining his end; but to our eyes, at least, it appears fortunate that the Gothic architects had other models before them, or they might have copied what perhaps even their ability would never have rendered a beauty.



951. Plan of Tak Kesra at Ctesiphon. From Flandin and Coste. Scale 100 ft. to 1 in.

Another detail in which this building contrasts most painfully with the last described is that, instead of the tall, simple, and elegantly-shaped pilasters which adorned its exterior, we here find a number of storeys of blind arches superimposed the one on the other without any apparent motive, and certainly without any compensating accession of elegance. The foiling of small arches, however, round the great one is

curious, and points to a mode of decoration which subsequently played an important part in the history of architecture.[1]



952. Elevation of Great Arch of Tak Kesra at Ctesiphon. Scale 50 ft. to 1 in.

Though it may not perhaps be beautiful, there is certainly something grand in a great vaulted entrance, 72 ft. wide by 85 ft. in height, and 115 in depth, though it makes the doorway at the inner end and all the adjoining parts look extremely small. It would have required the rest of the palace to be carried out on an unheard-of scale to compensate for this defect. The Saracenic architects got over the difficulty by making the great portal a semidome, and by cutting it up with ornaments and details, so that the doorway looked as large as was required for the space left for it. Here, in the parent form, all is perfectly plain in the interior, and painting alone could have been employed to relieve its nakedness, which, however, it never would have done effectually.

Taking it altogether the building is interesting as containing the germs of much that followed, rather than for any intrinsic merit of its own. The same is, perhaps, true of the style to which it belongs. If properly worked out and illustrated it would probably explain many of the difficulties in the history of the Eastern forms of the Byzantine style. It is doubtful, however, whether the materials exist for a full elucidation of the problem. Let us hope they may prove sufficient; for the blank which exists in the sequence at this period is a very great drawback on our power of understanding many of the problems which the subsequent history presents to us, more especially in India.

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[1] These four buildings probably date as near as may be one century from each other, thus—

Al Hadhr . . .	A.D. 250
Serbistan	350
Firouzabad . .	A.D. 450
Ctesiphon	550

A bare skeleton, which it will require much time and labour to clothe with flesh and restore to life.

CHAPTER III.

PERSIA.

CONTENTS.

Historical notice — Imaret at Erzeroum — Mosque at Tabreez — Tomb at Sultanieh — Bazaar at Ispahan — College of Husein Shah — Palaces and other buildings.

CHRONOLOGY.

Arab conquest of Persia	A.D. 641	Mahomed Khodabendah, builder of tomb at Sultanieh, began to reign	A.D. 1303
Haroun al-Rashid began to reign	786	Sufi dynasty	1499
Dynasty of Tartar Samanides	874	Abbas the Great, builder of Bazaar at Ispahan	1585
Seljukian dynasty	1037	Husein Shah, last of the Sufis	1694
Ghengis Khan	1205		
Ghazan Khan builds mosque at Tabreez	1294		

As mentioned a few pages further back, the architectural history of Persia is nearly a blank for the first six centuries of the Hejira. Nothing remains of the ancient glories of Bagdad except a few fragments of the walls of the Madrissa, and perhaps one or two tombs. Bussorah and Kufa are equally destitute of any architectural remains of the great age of the Caliphs. Indeed, there seems scarcely to be one single mosque or important building now remaining between the Euphrates and the Indus which belongs authentically to the earlier centuries of the Mahomedan era, and in such a state as would enable us to say what the style of those days was, or how far it resembled or differed from the contemporary styles in the neighbouring countries.

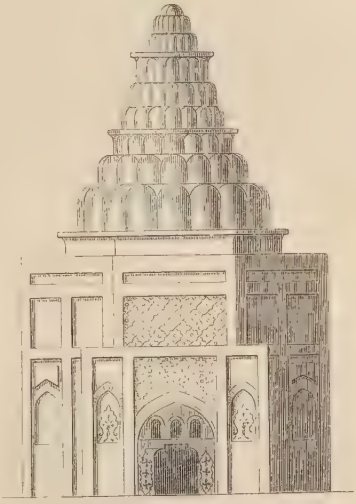
From what we know from history of the age of Haroun al-Rashid, it is probable that no Moorish court ever reached a higher pitch of enlightenment and magnificence than that of Bagdad during his reign (A.D. 786–809). It was also so far removed from the direct influence of the Byzantine style, that it is probable we should find in his buildings the germ of much which now comes abruptly before us without our being able to trace it back to its origin.

In the whole architectural history of the world there is scarcely so complete a break as this, and scarcely one so much to be lamented, considering how great and how polished the people were whose art is thus lost to us. Let us hope, however, that it is not entirely lost; but that some fragments may yet be recovered by the first who earnestly searches for them. Meanwhile there is one tomb outside the walls of Bagdad which may belong to this epoch; and even if it should prove

to be more modern, is interesting from its presenting us with a new form of pyramidal roof. It is known as the tomb of Zobeidé, the favourite wife of Haroun al-Rashid;[1] but as it stands alone, and we have no earlier buildings from which we can trace it, and no later one of a date sufficiently near to enable us to check any conclusion we might arrive at, we must be content to assume the tradition as correct, till the contrary is proved. It is an octagonal building, 80 ft. in diameter externally, and 130 ft. in height, with an entrance porch attached to one side. With such dimensions as these, it would hardly attract remark in the vicinity of an Indian city, but the form of its roof is very peculiar. My own impression is, that it is borrowed from earlier buildings, possibly even of the old Babylonian or Assyrian periods. Its greatest claim on our interest, however, arises from the fact that something very like it is found in India in the earliest Hindu and Jaina temples, for which no reasonable origin has yet been assigned. All recent discoveries seem to point to Assyria as the source of much which is found in the early architecture and mythology of India, and this, among other indications, is well worthy of attention.

953. Plan of Tomb of Zobeidé, Bagdad. Scale 100 feet to 1 in.

The same form occurs again in a building known as the Tomb of Ezekiel, near Bagdad (woodcut No. 955), the date of which has never been satisfactorily ascertained. It occurs also at Susa, on the so-called tomb of Daniel, and generally seems to be so usual in the age of the Caliphs, and is so peculiar, that it must have long been in use before it could become so generally diffused.

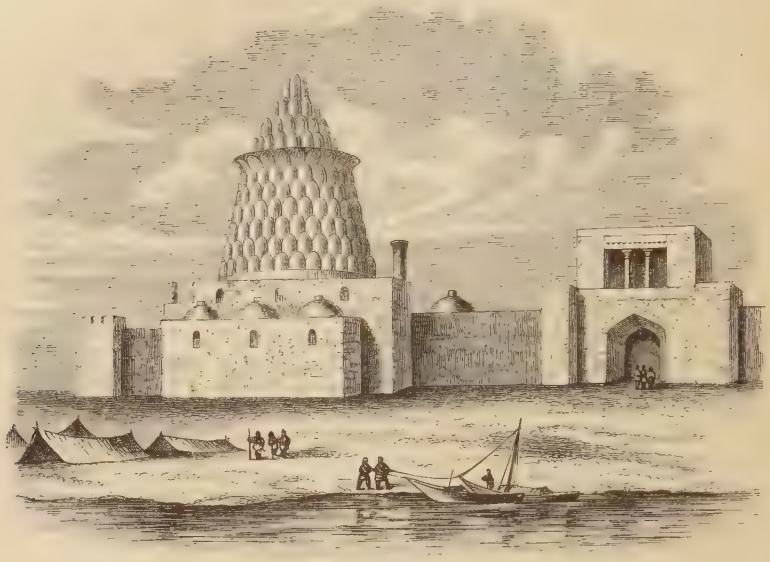


954. Elevation of Tomb of Zobeidé, Bagdad. Scale 50 ft. to 1 in.

From these, which may belong to the age of the Caliphs, we pass at once to the Seljukians, who seem to have been possessed of stronger building instincts.

One of the earliest buildings of this race of which anything like correct illustrations have been published is the Imaret or Hospital of

[1] For the plan and elevation of this building I am indebted to the unpublished drawings of my friend M. C. Texier.



955. Tomb of Ezekiel, near Bagdad. From Texier and Pullan.

Oulou Jami, at Erzeroum—an arcade of two storeys, surrounding on three sides a court-yard 90 ft. by 45. It is broken in the centre by what in a Christian church would be called a transept. The woodcut here given (No. 956) shews the general appearance of the arcade, and also the upper part of two minarets which flank the external porch. This porch is ornamented in the richest manner of the style. Opposite to the entrance a long gallery leads to the tomb of the founder, a circular building of very considerable elegance, the roof of which is a hemispherical vault internally, but a straight-sided Armenian conical roof on the outside. These dispositions make the plan of the building so similar to that of a Christian church, that most travellers have considered it as one, mistaking the court for the nave, and the tomb, with the gallery leading to it, for the apse and choir. There can, however, be no doubt but that it was originally built by a Mahomedan, for the purpose of a hospital, or place of rest for pilgrims, during the sway of the Seljukian princes in the 12th and 13th centuries; and that its similarity to a Christian church in plan is accidental, though its details very much resemble those of the churches of Ani and other places in Armenia. This, however, only shows that the inhabitants of the same country did not practise two styles, but arranged the same forms in different manners to suit their various purposes.

There is another mosque of about the same age as this one at Ani, which would show even more clearly this close analogy; but it has never been drawn with sufficient correctness to admit of its being

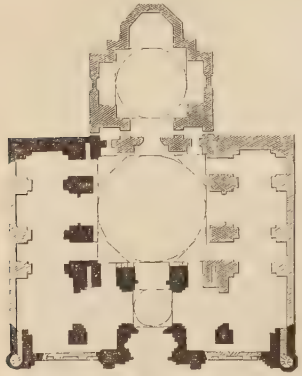
956. Imaret of Oulou Jami at Erzeroum. From Texier's 'Arménie et la Perse.'

used for the purpose of demonstrating the fact now pointed out. But, indeed, throughout Armenia, mosques and Christian churches constantly alternate, borrowing details from one another, and making up one of the most curious mixed chapters in the history of the art; a chapter still remaining to be written by some one who may visit the spot with sufficient knowledge and enthusiasm to accomplish it.

Mosque at Tabreez.

The next building that may be chosen for illustration is the ruined mosque at Tabreez, which, when perfect, must have been one of the most beautiful in the country. Its history is not exactly known; but it certainly belongs to the Mogul dynasty, which on the death of Mangu Khan, the son of Ghengis Khan, was founded in Persia by Hulaku, the brother of Mangu. He and his sons generally retained the faith of their forefathers till Ghazan Khan, who succeeded in A.D. 1294. Ghazan zealously embraced the Mahomedan faith, and it

was apparently to signalise the conversion that he began the mosque; but whether it was finished by him or his successors is not evident. As will be seen by the plan, it is not large, being only about 150 ft. by 120, exclusive of the tomb in the rear, which, as a Tartar, it was impossible he could dispense with.



957. Mosque at Tabreez. Scale 100 ft. to 1 in.

In plan it differs also considerably from those previously illustrated, being in reality a copy of a Byzantine church, carried out with the details of the 13th century—a fact which confirms the belief that the Persians before this age were not a mosque-building people. In this mosque the mode of decoration is what principally deserves attention; the whole building, both externally and internally, being covered with a perfect mosaic of glazed bricks of very brilliant colours, and wrought into the most intricate patterns, and with all the elegance for which the Persians were in all ages remarkable.

Europe possesses no specimen of any style of ornamentation comparable with this. The painted plaster of the Alhambra is infinitely inferior, and even the mosaic painted-glass of our cathedrals is a very partial and incomplete ornament compared with the brilliancy of a design pervading the whole building, and entirely carried out in the same style. From the time, however, of the oldest Assyrian palaces, to the present day, colour has been in that country a more essential element of architectural magnificence than form; and here at least we may judge of what the halls of Nineveh and Persepolis once were, when adorned with colours in the same manner as this now ruined mosque of the Tartars.

Though of course impossible adequately to represent this building in a woodcut, the view[1] (woodcut No. 958) of its principal portal will give some idea of the form of the mosque, and introduce the reader to a new mode of giving expression to portals, which after the date of this building is nearly universal in the East. The entrance-door is small, but covered by a semi-dome of considerable magnitude, giving it all the grandeur of a portal as large as the main aisle of the building. The Gothic architects attempted something of this sort, by making the outer openings of their doors considerably larger than the inner; in other words, by "splaying" widely the jambs of

[1] Both the plan and view are taken from Baron Texier's 'Arménie et la Perse,' which gives also several coloured plates of the mosaic decorations, from which their beauty of detail may be judged, though not the effect of the whole.

their portals. By this means, in some of the French cathedrals, the appearance of a very large portal is obtained with only the requisite and convenient size of opening; but in this they were far surpassed by the architects of the East, whose lofty and deeply recessed portals, built on the same plan as the example here shewn, are unrivalled for grandeur and appropriateness.

958. View of Ruined Mosque at Tabreez. From Texier's 'Arménie et la Perse.'

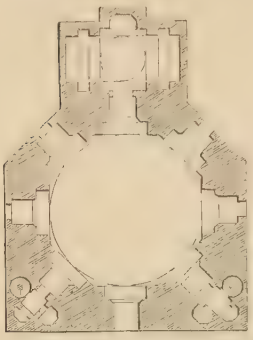
The mosque was destroyed by an earthquake in the beginning of the present century, but it seems to have been deserted long before that, owing to its having belonged to the Turkish sect of the Sonnites, while the Persians have during the last five centuries been devoted Shiites, or followers of the sect of Ali and his martyred sons.

Tomb at Sultanieh. (A.D. 1303–1316.)

Mahomed Khodabendah, the successor of Ghazan Khan, the builder of the mosque at Tabreez last described, founded the city of Sultanieh, and, like a true Tartar, his first care was to build himself a tomb[1] which should become the principal ornament of his new city. Ker

[1] Texier, from whose work the illustrations are taken, ascribes the building to another Khodabendah of the Sufi dynasty, A.D. 1577–85. Our knowledge, however, of the style is sufficient to show that the monument must be 200 or 300 years older than that king; and besides, the Sufis, not being Tartars, would not build tombs anywhere, much less in Sultanieh, where they never resided.

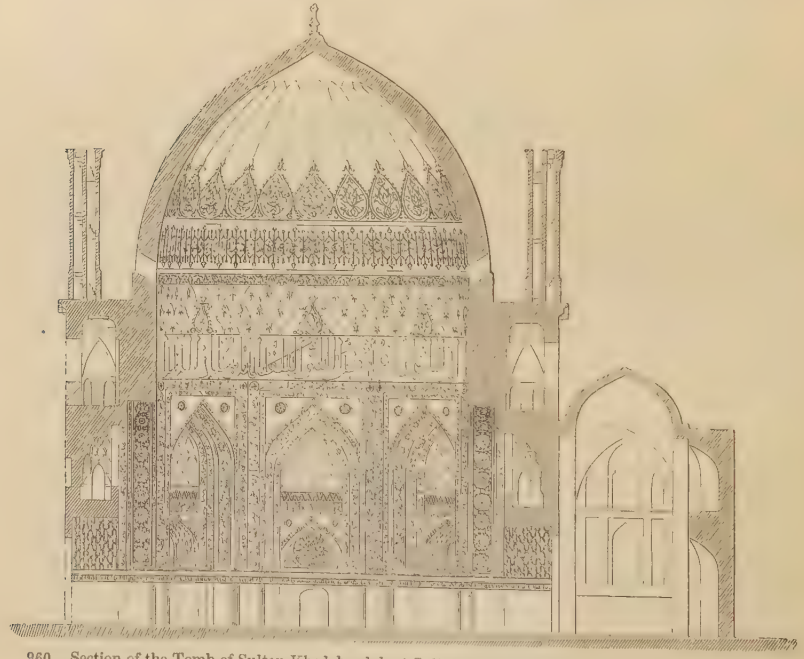
Porter[1] says that, being seized with as much zeal for his new Shiite faith as his predecessor had been for the Sonnite, his intention was to lodge in this mausoleum the remains of Ali and his son Hossein. This intention, however, was not carried into effect, and we know that his own bones repose alone in their splendid shrine.



959. Tomb at Sultanieh. Scale 100 ft. to 1 in.

In general plan the building is an octagon, with a small chapel added opposite the entrance, in which the body lies. The front has also been brought out to a square, not only to admit of two staircases in the angles, but also to serve as a backing to the porch which once adorned this side, but which has now entirely disappeared.

Internally the dome is 81 ft. in diameter by 150 ft. in height, the octagon being worked into a circle by as elegant a series of brackets as perhaps ever were employed for this purpose. The form of the dome, too, is singularly graceful and elegant, and much preferable to the bulb-shaped double domes subsequently common in Persian

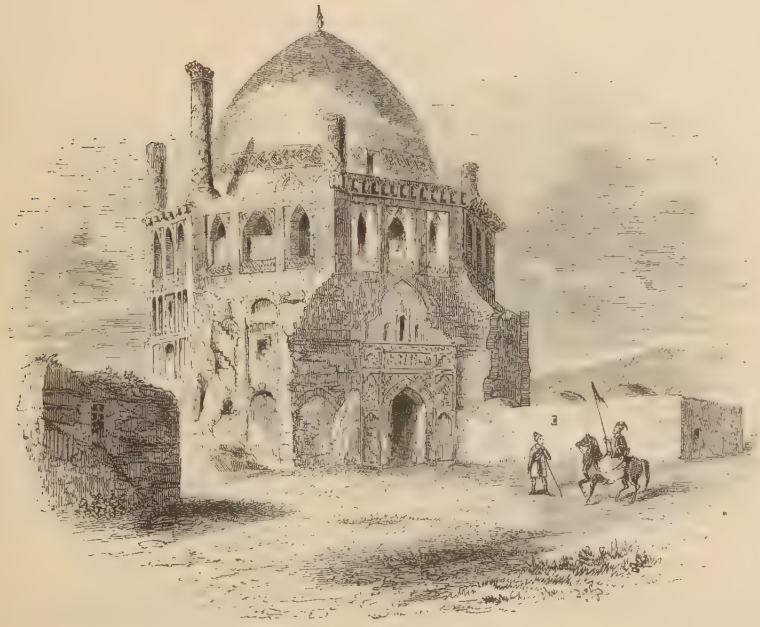


960. Section of the Tomb of Sultan Khodabendah at Sultanieh. From Texier's 'Arménie et la Perse.' Scale 50 ft. to 1 in.

[1] 'Travels,' vol. i. p. 277.

architecture. The whole is covered with glazed tiles, rivalling in richness those of the mosque at Tabreez, and with its general beauty of outline this building affords one of the best specimens of this style to be found either in Persia or any other country.

These works were, however, far surpassed in magnificence, though not in beauty, by those of the dynasty of the Sufis, who succeeded in 1499. The most powerful and brilliant sovereign of this race was Shah Abbas the Great (A.D. 1585–1629), whose great works rendered his capital of Ispahan one of the most splendid cities of the East. Among these works, by far the most magnificent was the great *Maidan*, or bazaar, with its accompanying mosque and subordinate buildings.



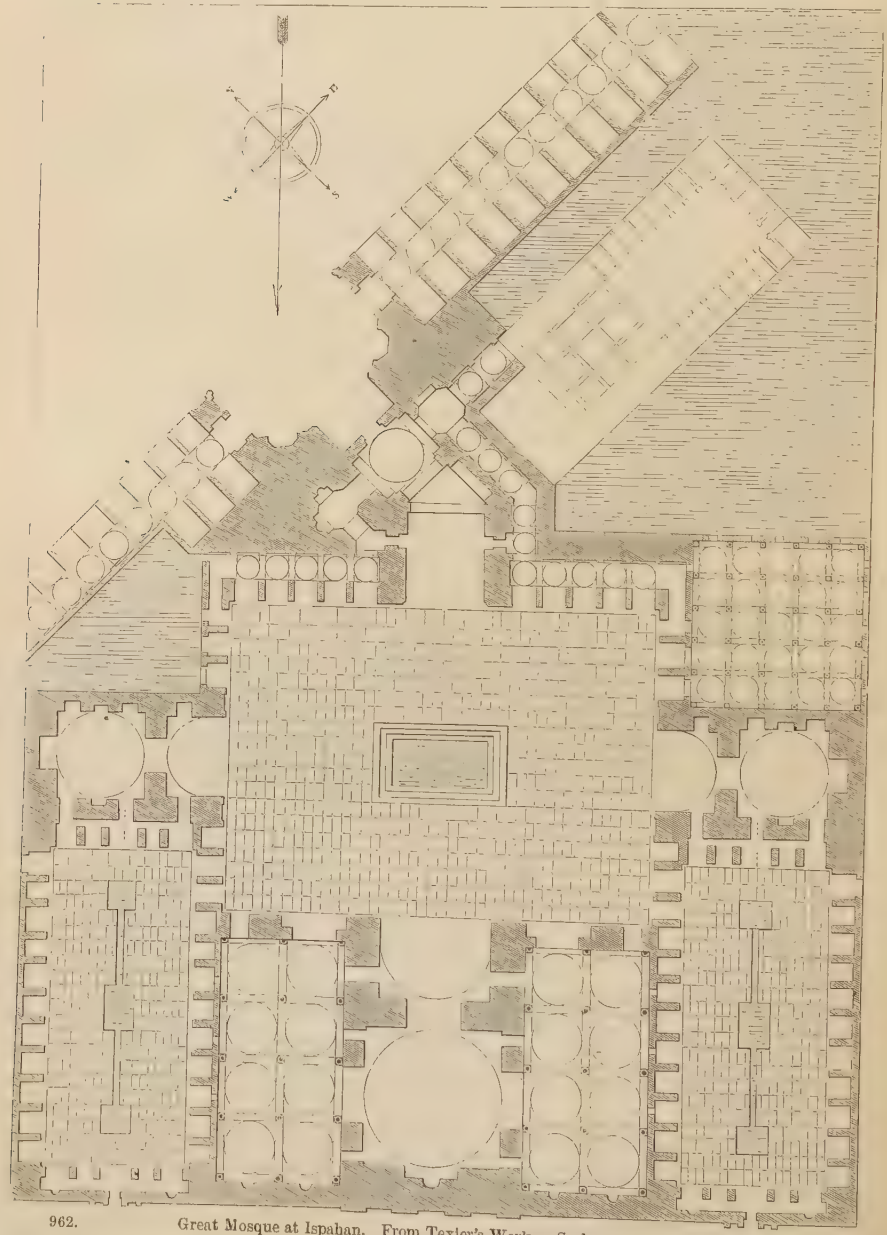
961. View of the Tomb at Sultanieh.

The Maidan is an immense rectangular area, 2600 ft. by 700,[1] surrounded on all sides by an arcade two storeys in height, consisting of 86 arches on the longer, and 30 on the shorter sides, richly ornamented, and broken in the centre of each face by a handsome edifice. The great mosque is at one end, opposite to which is the bazaar gate, and in the longer side the Luft Ullah mosque; facing this is the Ali Kassi gate, which, in its various storeys and complicated suites of

[1] Ker Porter's 'Travels,' vol. i. p. 432 *et seq.* I cannot help suspecting that there is some mistake about these dimensions —they seem excessive. The Piazza of St. Mark's at Venice, which resembles it more than any other area, is only 560 ft. long, with a mean breadth of about 250 ft.

apartments, is in fact a palace rather than a gateway as we understand the term.

The dimensions of the great mosque, or Mesjid Shah, may be judged of from the plan below. As will be perceived, the Maidan not facing



962. Great Mosque at Ispahan. From Texier's Work. Scale 100 ft. to 1 in.

Mecca, a bend is made in the entrance, which, however, is far from being unfavourable to the general picturesque effect of the group. The mosque itself is a rectangular building, the internal dimensions of which are 223 ft. by 130, the centre compartment being surmounted by a dome 75 ft. in diameter and 110 ft. high internally; but being double, like most domes of this age, its external height is 165 ft., which is also the height of the minarets attached to the mosque. On three sides the mosque is surrounded by court-yards, richly ornamented, and containing fountains and basins of water for the prescribed ablutions of the faithful. The principal court measures 225 ft. by 170,

963. Madrissa of Sultan Husein at Ispahan. From Flandin and Coste's 'Voyage en Perse.'

and surrounded as it is on all sides by façades in the richest style of Persian polychromatic decoration, the brilliancy of its architectural effect is almost unrivalled by any other example of its class. Both in architectural forms and in the style of ornament this mosque is inferior to those at Tabreez and at Sultanieh; but for mass and amount of decoration it is among the most magnificent specimens of its class. Taken altogether, the Maidan Shah, and its accompanying mosques and gates—the whole the work of one king and on one design—present a scene of gorgeous, though it may be somewhat barbarous splendour, almost unequalled in the whole world. Even now, in its premature decay, it strikes almost every traveller, though the

style is not one that looks well in ruin, owing to the perishable nature of the materials and the tawdry effect of glazed tiles, when it is seen that they are a mere surface ornament to the walls.

The forms and peculiarities of this style will be better judged of—in a woodcut at least—by the representation of the Madrissa, or college, of Huscin Shah (woodcut No. 963), the last of the Sufi kings of Persia; and though erected at the end of the 17th century, while the great mosque was built in the beginning of it, but little change seems to have taken place in the interval: the minarets are of the same form, the double bulb-shaped dome is similar, and the double arcades that surround the court of the mosque are the same in form as those that encircle the Maidan Shah.

From the time of the Afghan invasion, which took place during the reign of the Sultan Huscin in the beginning of the last century, Persia does not seem to have recovered herself sufficiently to undertake any great works; some palaces, it is true, have been built, and mosques of inferior dimensions, but nothing really remarkable of late years. The influence of the corrupt styles of Europe has become too apparent to enable us to hope that she will ever again be able to recover her place in the domain of art.

Although it was sometimes brilliant, and always truthful, the Persian Saracenic is hardly entitled to rank among the really great or admirable styles of architecture. Its chief historic interest rests on the fact of its being a modern reproduction of the style of the ancient palaces of Nineveh and Babylon, using the same thick walls of imperfectly burned bricks, and covering them with the same brilliant coloured decorations of glazed and painted tiles and bricks, carrying this species of decoration to an extent never attempted in any other part of the world. This too constitutes its principal claim to interest in an artistic point of view, since it shews how far polychromatic decoration may be used, both internally and externally, not only without any offence to good taste, but with the most complete success in producing that beauty and splendour which is the aim of all architectural utterance.

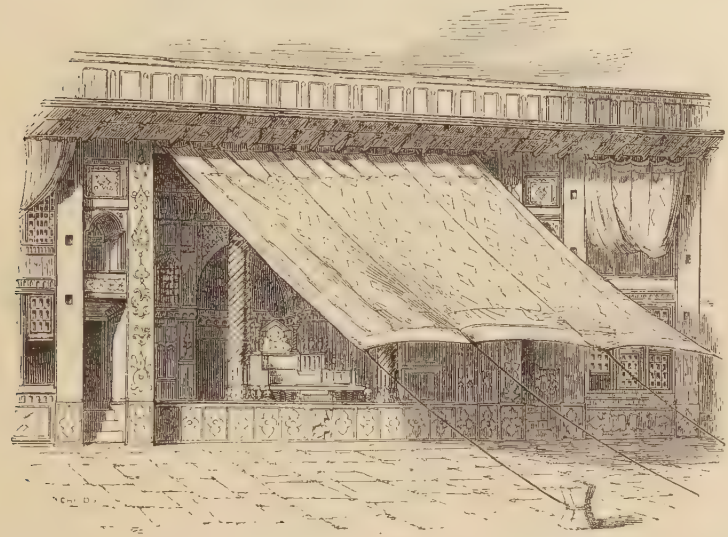
Palaces.

The Persian princes showed almost as much taste and splendour in their palaces as in their mosques; but these were not from their nature so capable of architectural display as the others. An Eastern palace neither requires that mass of apartments and offices which are indispensable in Europe, nor does the climate admit of their being massed together so as to form a single group, imposing from its size. On the contrary, the Persian palaces generally consist of a number of pavilions and detached halls, and smaller groups of apartments scattered over a large space interspersed with trees and gardens, and only

connected by covered arcades or long lines of canals, the centre of which is adorned by fountains of the most elegant forms.

Individually these detached buildings are often of great beauty and most elaborately ornamented, and the whole effect is pleasing and tasteful; but for true architectural effect they are too scattered, and the whole is generally very deficient in grandeur.

The throne-room at Teheran (woodcut No. 964) is a fair specimen of these buildings, though, in fact, it is only a porch or deep recess opening on a garden, the front being supported or ornamented by two twisted columns. In front of these a massive curtain is drawn out when the room is used, and both for colour and richness of effect the curtain is virtually the principal feature in the composition.



964. Throne-room at Teheran. From 'Nineveh and Persepolis Restored.'

The next example is taken from the palace of Char Bagh, or the "Four Gardens" at Ispahan, and shews the general picturesque form these buildings assume. It is by no means so favourable a specimen as the last, though this may arise more from the nature of the building than from any defect on the part of its architect. Many of the pavilions in the same palace are of great lightness and elegance, though, most of them being supported by wooden pillars, and being of very ephemeral construction, they hardly belong to the higher class of architectural art.

The Caravanserais form another class of buildings, not peculiar, it is true, to Persia, but which, from the character of the traffic in merchandise, and the general insecurity of the roads along which it is conducted, has received a great development in that country. Inter-

nally, their usual form is that of a square court-yard, surrounded by a range of arcades generally two storeys in height, each arch opening into a small square cell at the back. Externally they present only a high plain wall, surmounted by battlements and flanked by towers at each angle, and sometimes also by additional towers in the longer faces. The principal architectural ornament is lavished on the gateways, which are almost always higher than the contiguous walls, and often display great beauty of design combined with considerable elaboration of detail.

965. Palace at Ispahan. From 'Nineveh and Persepolis Restored.'

It is not, however, only in these larger monuments that the Persians show an appreciation of the beautiful and a power of expressing it. As in most Eastern nations, the feeling seems innate, and all the minor objects exhibit it, as well as the more important ones. Their political position is now such as would prevent them from accomplishing anything great in art. There are still, however, resident in that country remnants of those races who built the palaces of Babylon and Nineveh; and if an opportunity were afforded them, they might still do something, if allowed to do it in their own way. It is to be feared, however, that European influence is extending through that country too fast for art; and that if they attempted anything, it will be only in the bastard Italian style, which, with the round hat, seems destined to make the tour of the globe.

BOOK III.

INDIA.

CHAPTER I.

INTRODUCTORY.

CONTENTS.

Ethnology — Religions — Architectural Division of the Indian Styles — Importance of the subject.

There are few tasks which could be proposed to a writer on architectural subjects more difficult than that of giving a concise account, in a limited space, of all the myriad forms which architecture has assumed in India during the last 2000 years. In the earliest authentic narratives, we are told by Megasthenes that the country, 300 years before the Christian era, was divided into 122 separate states;[1] and there is no reason to believe that the number has been much diminished at any period between that time and the present day. It is true that the British rule has absorbed all but some thirty or forty into our vast empire, but no such state of things seems to have existed before, unless it is for a few years before the death of Aurungzebe (1707). Occasionally one of these states seems to have attained a sort of paramount authority over a greater or less number of its neighbours, but the dominion was never permanent. New combinations were continually taking place among the incoherent elements of Indian society, to be disintegrated again, as a more powerful chief, or a new fashion of religion, might for the moment dictate.

The religions of the Indians were as various and as varying as the political combinations, and their architecture, of course, followed the

[1] Arrian, 'Indica,' book i. ch. vii.

changes of the kaleidoscope. Add to all this, that the Indians never possessed a critical written or consecutive history of the country, and it will be understood how much study, and how much familiarity with the subject, it requires to attain a distinct grasp of so complex a subject, and how difficult, without unlimited space and power of illustration, it must be to convey to others a clear view of the changes art underwent in India, within the period designated. Although, however, the details of the story are involved and perplexed, its main outlines are by no means difficult to sketch. The fundamental phenomenon appears to be that, though India has the most fertile soil in the world, and the most delicious climate, the latter is enervating, and the conditions of life such as are not conducive to fecundity or longevity. The result is that, though populous, India has never overflowed—only some insignificant migrations to the eastwards can be traced. On the contrary, from the earliest day to the successive hordes of hardier races have crossed the Indus, and settled present within her boundaries, each for a while impressing its will and nationality on the subject-races, till gradually absorbed among the people, and then inevitably succumbing to the next race of conquerors.

The only one of these migrations of which we have any very distinct written details is that of the Mahomedans, commencing with Mahmood of Ghazni, A.D. 1001, and practically terminating with Nadir Shah, 1738, and Ahmed Shah Durani, 1760. For our present purposes, it unfortunately is the last; but it is a type of all the previous inroads across the Indus, and an intimate knowledge of its features enables us better to understand those which preceded it.

In a work like the present, it is, of course, impossible to trace all the various combinations to which these successive immigrations gave rise, still less to detail the arguments on which the conclusions regarding them are based; but it may add to the clearness of what follows, if it is preceded by a concise statement of the conclusions which have been arrived at by the author up to the present time, though a great deal of this must necessarily be taken on trust, for the present.[1]

[1] I am aware that in writing in this manner I expose myself, in the first place, to the charge of dogmatism, and, in the second, to refutation from subsequent discoveries. The first is unimportant; the second, I fear, inseparable from so progressive a subject; and it is hardly worth while to encumber the text by reservations and loopholes of escape, which merely serve to render the meaning obscure, in order that the personal consistency of the author may be protected. All I can say is, that the conclusions here announced are the result of thirty years' constant attention to the subject, and a very considerable amount of troublesome investigation. If further research in other branches of knowledge brings to light clearer or more consistent conclusions, no one will rejoice more than I shall, though they prove me to be wrong in any given instance. In some particulars I have little doubt but that this will be the case, but I do not believe the main outlines can now be altered.

Ethnology.

With regard to race, my impression is, that the Gonds, the Bhils, the Coles, and other tribes, now only found in the hills, are fragments of a people who, as far as we know, were aboriginal. They seem, before the advent of the Aryans, to have occupied the whole of the valley of the Ganges, and their affinities were with the Thibetans, and the people beyond the Indus.

The first immigration, of which we have any definite traces, is that of the Dravidian or Tamul-speaking races, now occupying the whole of the Madras Presidency. If they really migrated into India, it was across the Lower Indus, through Scinde and Guzerat, and passed onwards towards the south. It would, however, perhaps be, on the whole, more correct to assume that the Dravidians are the remnant of a great people, whose settlements, at some very early date, extended from the shores of the Persian Gulf to Cape Comorin. The Western branches have died out, or been absorbed into other races; and the Eastern have been pressed into the corner, where we now find them, by subsequent immigrations into India of other races.

The second great migration is that of the Aryans, or Sanscrit-speaking races. There seems no doubt that they did come across the Upper Indus into the Punjab at some remote date. Their own traditions would lead us to suppose that this may have been about the date of their own Cali Yug, 3101 years B.C., but their actual entry into India was more probably at least 1000 years later. Be this as it may, we can trace their progress onwards till they occupied the whole valley of the Ganges, north of the Vindya mountains, and ten or fifteen centuries before the Christian era, carried their victorious arms even to Ceylon.

The third great immigration took place about the Christian era, when the Sakas or white Huns, with other cognate races, passed the Lower Indus, settled in Guzerat, and extended themselves as far north as Delhi on their left, and the Mysore on their right. Generally they are known as the Rajpoot races, from their principal remnants being now found in the country bearing their name.

The fourth, or Mahomedan immigration, between the 11th and 13th centuries, is, as just mentioned, the only one of which all the details are known to us. They came across the Upper Indus, following, in every respect, the footsteps of the Aryans, and eventually extended their permanent occupation even beyond them to the southward.

The duration of each foreign occupation seems to have been shorter than that of the preceding. The Aryans may have held sway in India for nearly 1500 years before the uprising of the native tribes, in the form we know as Buddhism, deprived them of supremacy. The Rajpoots were all-powerful in Western India for ten or twelve centuries,

till they were struck down by the Mahomedans, whose rule lasted five or seven centuries, according as we choose to count from Mahmud or from Shahab-ud-deen. In the middle of the last century their power was destroyed by the uprising of the native races known as the Mahrattas, just as that of the Aryans had been by the revolution which brought the Buddhist religion to the surface 2000 years before.

The interference of England has prevented the further natural development of the usual phase of Indian history; it remains to be seen with what results of good or evil to the Indians or to ourselves.

RELIGIONS.

It is more difficult to discriminate the various religions of the people of India than to trace their blood. That of the Aryans has already been sufficiently characterised (Vol. i. p. 65), and is of comparatively little importance for our present purpose, inasmuch as they built nothing. We might therefore dismiss them entirely from our history were it not that their intellectual superiority was so great, as compared with that of the people among whom they settled, that their influence was felt everywhere, and their name is appropriated to the various so-called Brahminical superstitions of the present day. Before the Aryans reached India the inhabitants of the valley of the Ganges seem to have been tree and serpent worshippers—a people without any distinct idea of God, but apparently worshipping their ancestors, and, it may be, indulging in human sacrifices.

In the 6th century B.C., Sakya Muni reformed this barbarous Fetishism into the religion now known as Buddhism, and raised the oppressed inhabitants of Northern India to the first rank in their own country. Ancestral worship was refined into that of relics. The destruction, not only of human life, but of any living thing, was absolutely forbidden. Serpent-worship was utterly rejected, but tree-worship was adopted as an important part of the new faith. The castes of the Aryans were abolished. All men were equal, and all could obtain beatitude by the negation of enjoyment and the practice of prescribed ascetic duties.

It is much more difficult to explain how and when the worship of Siva arose. My own impression is that it is a local superstition of the original Dravidian races, which first, however, comes to our notice after the Christian era, and so mixed up with Brahminical fables as to hide its origin almost entirely. The Dravidians were certainly not either tree or serpent worshippers, and consequently never adopted the Buddhist faith in any form; but, however far we grope our way backwards, we find something like the worship of Siva existing among them.

The fourth great religious sect, known as that of Vishnu, rose into

importance some time after the Christian era, and seems to be made up of waifs and strays from all the other Indian faiths. It picked up the serpent-worship which the Buddhists had rejected, and adopted in a corrupted form many of the tenets of that faith. It entered into so close a partnership with Sivaism that the same temples were common to both religions. In the 11th century it was undistinguishable from Jainaism. There are many peculiarities in its doctrine that seem to have been borrowed from Assyria. Altogether it looks as if it were a faith that came in from the north-west with the Rajpoots, and adopted whatever it thought most likely to attract the people in the country in which they settled.

A fifth faith is that known as the Jaina religion. It might be defined negatively as Buddhism without its asceticism, or Vishnuism without its local superstitions. It rose into importance as Buddhism declined, and, in India, may be considered as its successor.

The last is that of the Mahomedan, which plays so important a part in the history of India during the last eight centuries.

The fate of these six religions is curious. There does not probably exist a single native Buddhist in all India from Cape Comorin to the Himalayas, though Buddhism is essentially an Indian religion in its origin, and still numbers more votaries in other countries than any other known religious faith.

There are Brahmins who profess to make the Vedas their sole rule of faith, but as they all adhere to some more modern form of religion, they can hardly be called Aryans; still their intellectual superiority is such that the Aryan scriptures are assumed to be the fountain-head of all the local superstitions of India, although, except in name, those superstitions have hardly anything in common.

Of the natives of India at the present day two-thirds, possibly three-fourths, belong to one or other of the various forms of the so-called Brahminical religion, such as Sivaism, Vishnuism, &c. One-tenth, at least, are Mahomedans. Another tenth, or hardly so many, may be Jains. The remainder are the hill-tribes, who still cling to their old forms of faith; and there are, besides, various outlying sects, the numbers of whose followers are too few to justify their enumeration in this place.

Architectural Division of the Subject.

All these races and religions have, of course, left their traces on the architecture of the country, with one great exception. The Aryans wrote books but they built no buildings. Their remains are to be found in the Vedas and the Laws of Menu, and in the influence of their superior intellectual power on the lower races; but they excavated no caves, and they reared no monuments of stone or brick

that were calculated to endure after having served their original and ephemeral purpose.

The Nagas, too, or snake-worshippers, were too early superseded by the Buddhists to have left any important architectural remains in India; but they crop up in great strength in Cashmere and in Cambodia, where their monuments are among the most remarkable in the East. As these two provinces are, however, outside India Proper, it will be convenient to take them last, after describing all those styles which have their origin more distinctly within the Peninsula.

Our history, therefore, commences with the architecture of the Buddhists. Some of their monuments can be dated with certainty as far back as 250 B.C.; and we not only know from history that they are the oldest, but they bear on their face the proofs of their primogeniture. Though most of them are carved in the hardest granite, every form and every detail is so essentially wooden that we feel in examining them that we are assisting at the birth of a new style: and for three or four centuries afterwards we can gradually trace the progress that was made in getting rid of the wooden forms and in replacing them by others more appropriate to stone architecture.

Although it will be wandering somewhat beyond the limits of India Proper, the mode best calculated to render this subject intelligible will be to treat Afghanistan as part of India, and then to describe Buddhist art as it existed in Ceylon, and in Burmah, Siam, and Java. By this means a general view may be obtained of a style complete in itself, but very little influenced by external causes, and having as little influence on any style beyond its own pale.

The exceptions to the completeness of this mode of treatment are China and Thibet. In the former, however, all the monuments are so modern, and so local in style, that they may fairly stand by themselves; and in the latter they are so little known that our ignorance is a too sufficient cause for their exclusion.

It is much more difficult to assign a tangible reason for any classification we may adopt for the Hindu styles. The date of the oldest known monument of this class cannot be carried further back than the 6th or 7th century of our era, and the oldest Jaina monument may be of the 10th century; but, in both instances, the style, when we first encounter it, is complete and full-grown. There is no hesitation about the design – no wooden clumsiness about the details. The whole is the result of centuries of experience in stone architecture; but when and where we do not know.

As it is consequently impossible, with our present knowledge, to assign priority to any style, a partly geographical arrangement will probably best suit the exigences of the case.

For this purpose it is proposed to take, first the Dravidian or

Southern Indian style. It is probably as old as the others. At all events it is complete in itself, and confined within easily defined limits.

Next to this it will be convenient to take up the Bengalee or Hindu style of Northern India, as the natural *pendant* of the other—these two being apparently the most essentially native styles in India—always excepting the Buddhist, as a matter of course.

The third in this classification will be the Chalukya or Rajpoot style of Western India; and the fourth will then be its pendant, the Jaina style, as practised on the same side of the country to the present day.

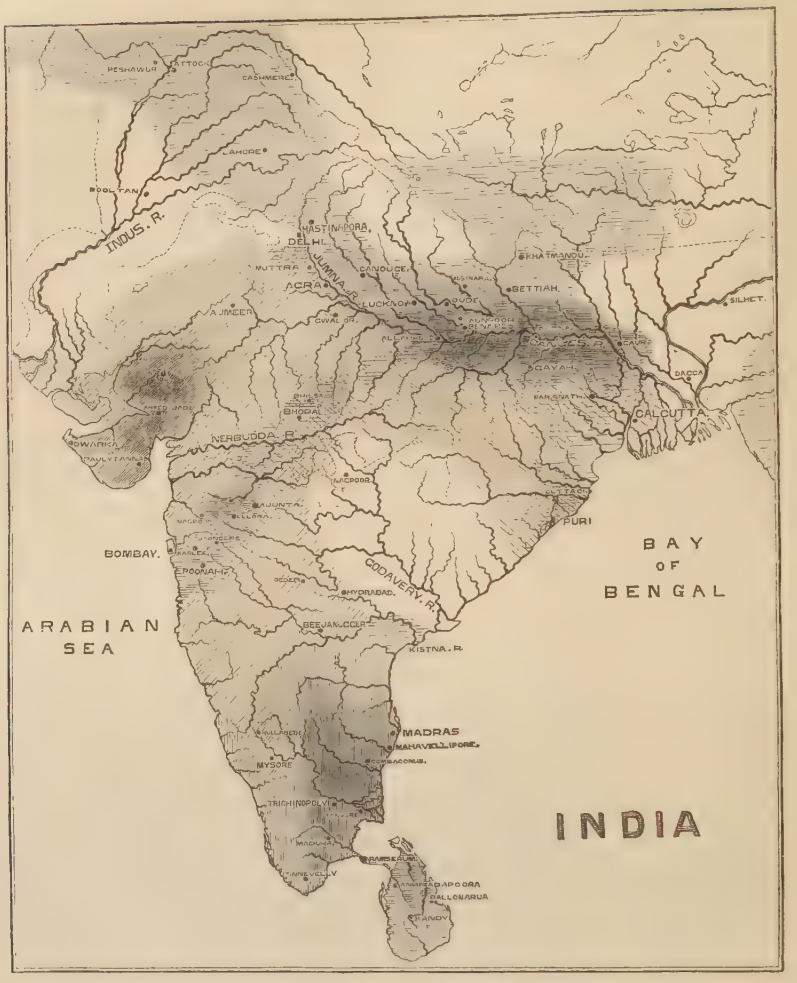
These four divisions are at present sufficient to exhaust all we know of native Indian architecture, apart from the Buddhist style; and a knowledge of their peculiarities will enable us to understand and appreciate the forms which Saracenic art took in the country.[1]

These naturally follow; but they are as various and as local as the Hindu styles that preceded them; and it will be requisite to classify them under eight or ten different heads in order to make them intelligible, though it is not necessary to specify them in this place.

The geographical distribution of these styles varied so much at different times that it is almost impossible to express their boundaries correctly in the map. The main divisions of the four great Indian styles are shadowed out on the following page in such a manner as may help those who are unfamiliar with the subject in realising their localities. The Buddhist style may roughly be described as nearly conterminous with the presidency of Bengal; the Dravidian as occupying nearly the whole of the Madras territory; the Jaina and Chalukya as being the styles *par excellence* of the Bombay Presidency—the former apparently the older, but early superseded in the south by the latter, the two struggling with each other for supremacy in the northern division of the presidency during the whole period in which we know them. The northern Bengal style first makes its appearance as fringing the whole of the Buddhist province on its southern boundary, and gradually pushing its conquests northwards till it occupies nearly the whole of the north of India.

To express all this clearly each style ought to have a map to itself,

[1] Many may at first sight feel inclined to object to this separation of the Indian Saracenic from the other branches of that art. When, however, they have mastered the subject, they will perceive that the forms which the Moslems adopted in India sprang so directly from the arts of the Hindus who preceded them, that a previous knowledge of the native art is indispensable to make the subject intelligible. Under these circumstances, if all the forms of Saracenic art were to be kept together, the Hindu style must have followed immediately after Byzantine art, and thus been interpolated between it and those forms which arose directly out of it, and the whole sequence of the history disturbed. On the other hand, by recognizing India as a little world by itself—which it really is—no violence is done, and the whole acquires a unity which it appears to me most desirable to attain.



966. SKETCH MAP OF INDIA,

Shewing the approximate Distribution of the four principal Styles of Hindu Architecture, viz. :—

BUDDHIST, distinguished by horizontal hatching . . .

DRAVIDIAN, by perpendicular lines . . . . . .

NORTHERN HINDU, by lines sloping to the right . . .

CHALUKYA AND JAINA, by lines sloping to the left . .

but the information now available hardly justifies our going into such detail. On the other hand, any maps of the Mahomedan empire, as it existed in the days of Akber or of Aurungzebe, are sufficient to point out the various forms of architecture that then prevailed; each separate kingdom having a style of its own, all differing more or less, some almost entirely, from the style of any other Mahomedan community in any other part of the world.

Having by the above enumeration exhausted the architectural forms of India, we pass naturally to those of Cashmere and Cambodia, which were in some way intimately connected together at their origin, while their importance can hardly be appreciated without previous knowledge of what was done in India.

From Cambodia we pass on naturally to China, and conclude with Mexico and its mysterious remains.

Excluding the two last-named styles and confining our view to the enumeration of those of India, we have here at least four of Buddhist art, four more belonging to the Hindus, eight of Saracenic and two of Naga art—eighteen or twenty styles of architecture, differing from each other more than the styles practised in Europe from the dawn of Pelasgic art in Greece down to the present day, and almost all, unfortunately for present purposes, new and unfamiliar to most readers.

Many may be inclined to ask, Is it worth while to master all the geographical and historical details necessary to unravel so tangled a web as this, and then try to become so familiar with their ever-varying forms as not only to be able to discriminate between the different styles, but also to follow them through all the changes they underwent?

My impression is that this question may fairly be answered in the affirmative. No one has a right to say that he understands the history of architecture who leaves out of his view the works of an immense portion of the human race, which has always shewn itself so capable of artistic development. But, more than this, architecture in India is still a living art, practised on the principles which caused its wonderful development in Europe in the 12th and 13th centuries; and there consequently, and there alone, the student of architecture has a chance of seeing the real principles of the art in action. In Europe, at the present day, architecture is practised in a manner so anomalous and abnormal that few, if any, have hitherto been able to shake off the influence of a false system, and to see that the art of ornamental building can be carried on on principles of common sense, and that, when so practised, the result not only is, but must be, satisfactory. Those who have an opportunity of seeing what perfect buildings the ignorant uneducated natives of India are now producing, will easily understand how success may be achieved, while those

who observe what failures the best educated and most talented architects in Europe are constantly perpetrating, may, by a study of Indian practices, easily see why this must inevitably be the result. It is only in India that the two systems can now be seen practised side by side—the educated and intellectual European always failing because his principles are wrong, the feeble and uneducated native as inevitably succeeding because his principles are right. The Indian builders *think* only of what they are doing, and how they can best produce the effect they desire. In the European system it is considered more essential that a building, especially in its details, should be a correct *copy* of something else, than good in itself or appropriate to its purpose: hence the difference in the result.

In one other respect India affords a singularly favourable field to the student of architecture. In no other country of the same extent are there so many distinct nationalities, each retaining its old faith and its old feelings, and impressing these on its art. There is consequently no country where the outlines of ethnology as applied to art can be so easily perceived, or their application to the elucidation of the various problems so pre-eminently important. The mode in which the art has been practised in Europe for the last three centuries has greatly confused the subject. In India it is clear and intelligible. No one can look at the subject without seeing its importance, and no one can study the art as practised there without recognising what the principles of the science really are.

In addition, however, to these scientific advantages it will undoubtedly be conceded by those who are familiar with the subject, that for certain qualities the Indian buildings are unrivalled. They display an exuberance of fancy, a lavishness of labour, and an elaboration of detail to be found nowhere else. They may contain nothing so sublime as the hall at Karnac, nothing so intellectual as the Parthenon, nor so constructively grand as a mediæval cathedral; but for certain other qualities—not perhaps of the highest kind, yet very important in architectural art—the Indian buildings stand alone. They consequently fill up a great gap in our knowledge of the subject, which without them would remain a void.

CHAPTER II.

BUDDHIST ARCHITECTURE.

CONTENTS.

Division of subject — Topes, Sanchi — Temples, Karli — Monasteries, Ajunta — Ornamentation of caves.

CHRONOLOGY.

Birth of Gautama Buddha	B.C. 623	Cuttack caves, from 200 B.C. to about Christian era.	
Death of Gautama Buddha, and first convocation held	543	Topes at Bilsah . 2nd cent. B.C. to 2nd or 3rd A.D.	
Chandragupta, contemporary of Alexander	325	Vicramaditya buildings at Oujein	B.C. 56
Asoka: third convocation held. Buddhism made the religion of the state. Lâts erected. Earliest monuments and inscriptions in India, mean date.	250	Salivahana—Cave at Karli	A.D. 79
Dasaratha, his grandson. Early caves in Behar	about 200	Topes at Manikyala . . 1st cent. B.C. to 7th A.D.	
		Topes in Afghanistan . 1st cent. A.D. to 5th or 6th.	
		Caves at Ajunta . 1st cent. A.D to 10th or 11th A.D.	
		Caves at Ellora . 5th cent. A.D to 8th or 9th A.D.	
		Topes at Sarnath. . . . 6th to 9th cent. A.D.	

Although immense progress has been made during the last thirty or forty years in investigating the origin of Buddhism, and the propagation of its doctrines in India, and in communicating the knowledge so gained to the public in Europe, much remains to be done before the story is complete, and divested of all the absurdities which subsequent commentators have heaped upon it; and more must yet be effected before the public can be rendered familiar with what is so essentially novel to them. Still, the leading events in the life of the founder of the religion are simple, and sufficiently well ascertained for all practical purposes.

The founder of this religion was one of the last of a long line of kings, known as the Solar dynasty, who, from a period shortly subsequent to the advent of the Aryans into India, had held paramount sway in Ayodia—the modern Oude. About the 10th or 12th century B.C. they were superseded by another race of much less purely Aryan blood, known as the Lunar race, who transferred the seat of power to capitals situated in the northern parts of the Doab. In consequence of this, the lineal descendants of the Solar kings were reduced to a petty principality at the foot of the Himalayas, where Sakya Muni was born about 623 B.C. For thirty-five years he enjoyed the pleasures, and followed the occupations, usual to the men of his rank and position;

but at that age, becoming painfully impressed by the misery incident to human existence, he determined to devote the rest of his life to an attempt to alleviate it. For this purpose he forsook his parents and wife, abandoned friends and all the advantages of his position, and, for the following forty-five years, devoted himself steadily to the task he had set before himself. Years were spent in the meditation and mortification necessary to fit himself for his mission; the rest of his long life was devoted to wandering from city to city, teaching and preaching, and doing everything that gentle means could effect to disseminate the doctrines which he believed were to regenerate the world, and take the sting out of human misery.

He died, or in the phraseology of his followers, obtained Nirvana —was absorbed into the deity—at Kusinara in northern Behar, in the 80th year of his age, 543 years[1] B.C.

The first convocation was held at Rajagriha immediately afterwards, for the avowed purpose of reducing the precepts of the founder to writing. A second was held 100 years afterwards, at Vaisali on the Gunduck, opposite Patna, for the purpose of settling some disputed points of doctrine which had arisen during the past century. Although it is reported that this assembly was most numerously attended, we have no exact knowledge of the extent to which the doctrines of Buddhism had been adopted at the time. It certainly would appear that Chandragupta—the Sandracottus of the Greek historians—still adhered to the Brahminical faith. So did his son Bimbasaro; and generally it may be asserted, that the new faith had nowhere become the religion of the State, however much it may have been diffused among the people. With the conversion of the celebrated Asoka, this state of affairs was altered. Seventeen years after he ascended the throne, he held the third great convocation in the city of Palibothra—the modern Patna—about 300 years after the death of the founder of the religion, and 250 years before the Christian era. It was then resolved to send missionaries to propagate the doctrines of Buddhism beyond the Indus, and in Ceylon. Treaties were formed for the protection of the followers of this religion with Antiochus Theos, Antigonus Gonatus; with Ptolemy Philadelphus, Megas of Cyrene, and Alexander of Macedon.[2] From this time the faith seems to have been propagated with immense rapidity, but always by gentle means. We have absolutely no hint of either war or persecution being used for its dissemination; and, from that time, for

[1] There may possibly be an error of forty to sixty years in this date; but, on the whole, that here given is supported by the greatest amount of concurrent testimony, and may, after all, prove to be minutely correct.

[2] Journal, Asiatic Society, Bengal, vol. vii. p. 219 *et seq.*; Royal Asiatic Society, vol. xii. p. 153 *et seq.*; 'Quarterly Review,' for July, 1860, p. 218, &c.

at least ten centuries, it was the dominant faith all over the north of India. In the first century of our era it was extended into Burmah and Pegue, and penetrated even into China—Thibet having been one of the first countries to adopt the faith, unless, indeed, the converse is the case, and that Buddhism, in its main features, was originally a Thibetan form, introduced into India by Sakya Muni.

Our increasing knowledge of ethnography renders this rapid diffusion of Buddhism every day less wonderful. In India, the Aryan supremacy had been declining ever since the decay of the kingdom of Ayodia, and especially since the rude shock it had sustained in the wars narrated mythically in the great epic of the Mahabharata. In the 7th century B.C., the Aryans were no longer a pure or united race; and when Sakya Muni called on the long subject races to rise and reassert their rights, his appeal found a response in the hearts of the great mass of the population. The secret of the success of Buddhism lies in the fact that it was an uprising of the casteless Turanians against the caste-loving Aryans, who had long held them in subjection; but the former being then the more numerous, the revolution was easily accomplished, and as easily maintained, till the Buddhists, in their turn, were squeezed out of India by fresh immigration across the Indus on the west, and the gradual increase of the Dravidian races of the south. The religion, however, still maintains its undisputed sway in all the neighbouring countries, where no admixture of foreign races has been superinduced.

It was not only, however, in India that Turanian races lay beneath an Aryan or Semitic supremacy, but throughout the whole of the old world. Wherever we find a plain covered with tumuli, wherever a circle of stones or a dolmen marks a spot, or a menhir rears its head, there we may feel sure the voice of this new teacher would have found an echo, had it reached so far; and in all those countries we find that monastic institutions, segregation of the clergy, veneration of saints, worship of relics, and all the peculiar features of the new faith, immediately took root, and, in many, flourish to the present day.

All this will be clearer as we proceed; meanwhile, the fact which interests us most in this place is that, with the resuscitation of a Turanian people, and the rise of a Turanian form of worship, the architectural history of India really commences: as before mentioned, we have not one single monument in that country that can date before the time of Asoka, and even during his reign the examples we possess can scarcely be called architectural.

The circumstances of the architectural history of India commencing with Asoka, about B.C. 250, and of all the monuments for at least five centuries after that time being Buddhist, are two cardinal facts that cannot be too strongly insisted upon, or too often repeated, by those who wish to clear away a great deal which has hitherto tended

to render the subject unintelligible.[1] There is no *à priori* impossibility that the Dravidian, or northern aboriginal races, may have built as early; but no trace of this has been found, and it is, to say the least of it, extremely improbable. When we first meet the Buddhist style it is in its infancy—a wooden art painfully struggling into lithic forms. When we meet the other styles they are full grown, and we have as yet discovered no vestiges of them in their less advanced forms. India has probably been by this time sufficiently investigated to enable us to say that none of any importance do exist.

The principal monuments by which Asoka is known to us are his inscriptions. Three of these are engraved on the living rock, one near Cuttack, on the shores of the Bay of Bengal, another near Jonaghur, in Guzerat, 1000 miles west of the last, and a third at Kapur di Giri, 900 miles north of Jonaghur. Slightly more architectural than these are the Lâts, or pillars which he erected to contain edicts conveying the principal doctrines of the Buddhist religion as then understood.[2] Of these one is at Delhi, having been re-erected by Feroze Shah in his palace, as a monument of his victory over the Hindus. Three more are standing near the river Gunduck, in Tirhoot; and one, represented in the annexed woodcut (No. 967), has recently been placed on a pedestal in the fort of Allahabad. A fragment of another was discovered near Delhi, and part of a seventh was used as a roller on the Benares road by a Company's engineer officer.

They are so similar that the following description of the Allahabad pillar will serve for all. It is one stone, 42 ft. 7 in. in height, of which 7 ft. 7 in.[3] may be considered as the base, which probably was

[1] I believe I was the first to ascertain these facts from a personal inspection of the monuments themselves. They were communicated to the Royal Asiatic Society in a paper I read on the 'Rock-cut Temples of India,' in 1842. Every subsequent research, and every increase of our knowledge, has tended to confirm those views to such an extent that they are not now disputed by any one acquainted with the literature of the subject, though some writers do still indulge in rhapsodies about the primæval antiquity of the caves, and their connexion with those of Egypt, &c. Till all this is put on one side, no clear idea can be obtained of the true position of the art in India.

[2] These inscriptions have been published in various forms and at various times by the Asiatic Societies of Calcutta and London; but it is very much to be regretted that a carefully-edited translation is not issued in some separate form easily accessible to the general public. An absolutely authentic and unaltered body of Buddhist doctrine, as it stood 250 years before the birth of Christ, would be one of the most valuable contributions possible to the religious history of the modern world, and so much has been already done that the task does not seem difficult.* Among other things, they explain to us negatively why we have so little history on India in these days. Asoka is only busied about doctrines. He does not even mention his father's name; and makes no allusion to any historical event, not even those connected with the life of the founder of the religion. Among a people so careless of genealogy, history is impossible.

[3] These dimensions are taken from Capt. Burt's drawings published in the J. A. S. B, vol. iii. plate 3.

* Gen. Cunningham has just brought home a fourth copy of the great inscription which he found on a rock on the north of the Dehra Dhoon.

buried to some extent in the ground, or in the masonry that supported it. The shaft, properly so called, was 3 ft. in diameter at the base, diminishing to 2 ft. 2 in. at the summit. The necking immediately below the capital (woodcut No. 968) represents, with considerable purity, the honeysuckle ornament of the Assyrians, which the Greeks borrowed from them with the Ionic order.

968. Honeysuckle ornament from capital of Lât.

At first sight, it might appear that this ornament points to the influence which the Greeks settled in Bactria may have had on Indian art. But, on the whole, it is probably more correct to assume that both Greeks and Indians borrowed it from the same source in Assyria, the influence of which on Indian architecture is more and more apparent as we become better acquainted with the subject.

969. Capital of Lât in Tirhout. From a Drawing by the late Capt. Kittoe.

The pillar at Allahabad has lost its capital, but we are able to supply the deficiency from two of the Tirhoot examples, which retain their capitals with the lions which seem generally to have crowned their summits. Another of these capitals was discovered by General Cunningham at Sankissa, on the Ganges. This time the animal was an elephant, though he has lost his trunk, and lost it so long ago that the Chinese traveller Hiouen Thsang mistook him for a lion in the beginning of the 7th century. The Assyrian honeysuckle ornament, and the Persepolitan leaves, are all

970. Capital at Sankissa. From a Drawing by Gen. Cunningham.

967. Lât at Allahabad.

even more distinct in this than in the last-quoted example. The bead-and-reel ornament is familiar to us from Persian architecture. The capitals are so similar to the lower members of those at Persepolis, and more especially to the bases of the columns there, as to leave no doubt of their common origin.

It is almost certain that these pillars of Asoka stood originally in front of some sacred buildings which have perished. We know that the great tope of Sanchi had one or two such monoliths in front of each of its gateways, and the great caves of Karli (woodcuts Nos. 989, 991) and Kennari show similar pillars cut in the rock in front and on each side of the entrance of the great halls, which, therefore, we may assume to be their proper position.

971. Surkh Minar, Cabul. From a Drawing by Mr. Masson, in Wilson's 'Ariana Antiqua.'

Besides these, there are two Lâts at Erun, one at Pathari in Central India, and several others, of more or less importance, in various parts of India. The most curious, perhaps, is one of wrought iron at Delhi. It is a single casting, nearly 50 ft. in length, of which 22 are above the ground, and more than 5 ft. in circumference at the base. It probably belongs to the 5th or 6th century. It is wonderful to think how it was cast at that remote date, or how it has been preserved from rusting, after its exposure for so many centuries in the open air.

There is no instance, so far as I am aware, of a built monumental pillar now standing in India. This is sufficiently accounted for by the ease with which they could be thrown down and their materials removed, when they had lost the sanctity which alone protected them. There are, however, two such pillars among the topes of Cabul, and evidently coeval with them, now called the Surkh Minar, and the Minar Chakri. These are ascribed by the traditions of the place to Alexander the Great, though they are evidently Buddhist monuments, meant to mark some sacred spot, or to commemorate some event, the memory of which has passed away. They are probably of the third or fourth century of our era, and their shape and outline exhibit great degeneracy from the purer forms with which architecture commenced in India, and which were there retained to a

much later period than in this remote province. There can be little doubt that their upper members are meant to be copies of the tall capitals of the Persepolitan pillars, which were probably common also in Assyria, and throughout this part of Asia. They may also have resembled the "chapiters" which form so important a part of the two pillars set up by Solomon before his temple at Jerusalem.[1]

The remaining monuments of the Buddhist religion may be classed under three heads. First, Sthupas or Topes: Essentially these ought to be divided into two classes—those which were intended to contain relics,[2] and those which were erected to mark sacred spots, and commemorate events in Buddhist history. But, as no external mark has yet been discovered from which the different uses can be inferred, they may architecturally be considered as one class.

The second class, called Chaityas, are both in use and form identical with Christian churches, more especially those of early basilican type. Unfortunately all the Indian examples, with, perhaps, one exception, are rock-cut. Though their interiors are more perfectly preserved from this circumstance than if they were structural, we are left almost entirely in ignorance of what their outward form may have been.

The third class consists of *viharas* or monasteries. These, too, in India are nearly all rock-cut. The few structural examples that remain are of brick, originally plastered; but, having been ruined eight or nine centuries ago, all their ornaments—all, indeed, except their plans—are gone, and they hardly help us in our researches.

As will be seen from the sequel, the distribution of the monuments differs widely from that of the religion, as shewn in the map, page 452.

The original seat of the faith was the Kingdom of Magadha, now known as North and South Behar, with Palibothra—Patna—for its capital. It was there it flourished longest and most extensively. From this centre it sent one offshoot down to Cuttack on the shores of the Bay of Bengal; another thin line westward through Bilsah to Bombay Harbour. A more important branch extended in a north-western direction across the Indus to Cabul. Besides these, it leaked through the passes of the Himalayas into Thibet, and crossed the ocean to Ceylon.

At the extremities of all these routes monuments exist in abundance, but they decrease in frequency and importance almost in the exact ratio in which we approach the central province from which the whole emanated.

The origin of relic-worship is thus accounted for by the traditions of

[1] 1 Kings vii. 16 *et seq.*

[2] The first are properly styled dagobas, from dhatu, a relic, and gabba, or garba, the shrine or tomb, from which the word pagoda seems to be a corruption. If ever it becomes necessary to distinguish them, the one should be called dagoba, the other sthupas.

Buddhism. It is said that at the death of the founder of the religion eight cities disputed the possession of his mortal remains. The difficulty of a decision was avoided by a distribution of the sacred relics. Of these by far the most famous is the so-called Tooth relic, which, till the last few years, was so carefully guarded by the British governors of Ceylon, as the Palladium of our sovereignty over that island. It originally fell to the lot of Kalinga, and was magnificently enshrined on the spot where now stands the celebrated temple of Juggernath at Puri. Here it remained till the fourth century, when it was conveyed for a short time to Patna, then the capital of the country. After performing many miracles there, it was restored to its original place of deposit, but only for a very short time;—for, on the invasion of the country by strangers from the East, it was conveyed to Ceylon, concealed in the hair of the king's daughter: it was received there in the year 311 of our era, and has ever since continued the most precious treasure of the realm.[1]

Besides this, Ceylon possesses the left Collar-bone, enshrined in the Thuparamya Dagoba at Anuradhapoora (woodcut No. 1007), and the Thorax-bone, enshrined at Bintenne, near Kandy. The Mahawanso, or great Buddhist history of Ceylon, describes the mode in which this last building was raised, by successive additions, in a manner so illustrative of the principle on which these relic-shrines arrived at completion, that it is well worth quoting:—"The chief of the Devos, Sumano, supplicated of the deity worthy of offerings for an offering. The Vanquisher, passing his hand over his head, bestowed on him a handful of his pure blue locks from the growing hair of the head. Receiving and depositing it in a superb golden casket, on the spot where the divine teacher had stood, he enshrined the lock in an emerald dagoba, and bowed down in worship.

"The thero Sarabhu, at the demise of the supreme Buddha, receiving at his funeral pile the Thorax-bone, brought and deposited it in that identical dagoba. This inspired personage caused a dagoba to be erected 12 cubits high to enshrine it, and thereon departed. The younger brother of King Devenampiatisso (B.C. 250), having discovered this marvellous dagoba, constructed another encasing it, 30 cubits in height. King Duttagamini (B.C. 161), while residing there, during his subjugation of the Malabars, constructed a dagoba, encasing that one, 80 cubits in height."

Thus was the "Mahiyangana dagoba completed."[2] It is possible that at each successive addition some new deposit was made; at least most of the topes examined in Afghanistan and the Punjab shew

[1] See account of Tooth relic by the Hon. G. Tournour, J. A. S. B, vol. vi. p. 856 *et seq.* Sterling Cuttack, Trans. A. S. B., vol. xv. p. 263, &c. &c.

[2] Abstracted from Turnour's 'Mahawanso,' p. 4.

signs of these successive increments, and successive deposits, one above the other.

Bilsah Topes.

About thirty topes have been opened near Bilsah by Major (now General) Cunningham, of the Bengal Engineers, and Lieut. Maisey, ten of which have yielded results of the most interesting character. One tope contained relics of the two principal disciples of Buddha; another of Moggaliputra, who presided over the third great convocation held by Asoka. Others contained relics of those missionaries whom we know to have been sent by Asoka to convert the nations of the Himalaya and of the banks of the Indus. Relics were found of other priests and saints whose names and acts are still unknown to us. The whole of these discoveries tend to confirm, to a very great extent, the traditions that have come down to us, besides making the intent and purpose of these buildings perfectly clear and intelligible.

From the age of the disciples of Buddha, whose relics are found in these topes, General Cunningham[1] argues that they may even be older than Asoka. If they were tombs containing their bodies, this might be the case; but few saints are canonized till at least a century after their death, and it is questionable if any of Buddha's followers attained this distinction before Asoka's time. But even if this were the case, a still longer time is required before relics of them—a few hairs, a bit of cloth, a small bone, a tooth, or such like articles—become so invaluable that men erect noble shrines like these for their preservation, and believe in their efficacy to repay the worship addressed to them.

By far the finest as well as the most perfect tope in India is that of Sanchi, the principal one of those situated near Bilsah, in Central India. It is uncertain whether it ever contained relics or not, as it was dug into in 1819 by Sir Herbert Maddock, since which time it has remained a ruin, and may have been plundered by the natives. At any rate, that it was a spot of peculiar sanctity is evident, both from its own magnificence and from the number of subordinate topes grouped around it. In fact there are a greater number of these monuments on this spot, within a space not exceeding seventeen or twenty miles, than there are—so far, at least, as we now know—in the whole of India from the Sutlej to Cape Comorin.

The general appearance of the Sanchi Tope will be understood from the view of it on woodcut No. 972, and its shape and arrangement from the plan and section on Nos. 973, 974. From these it will be observed that the principal building consists of a dome somewhat less than a hemisphere, 106 ft. in diameter, and 42 ft. in height.[2]

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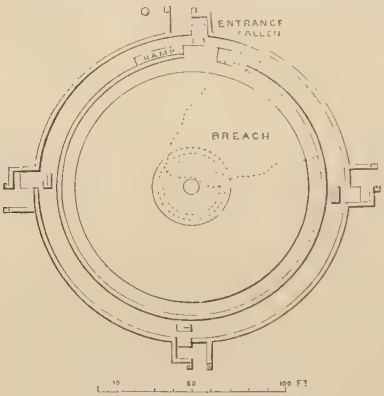
[1] 'Bilsah Topes,' by Gen. A. Cunningham, published in 1854, p. 270 *et seq.*

[2] These views, plans, &c., are taken from a Memoir by Capt. J. D. Cunningham, J. A. S. B., August, 1847.

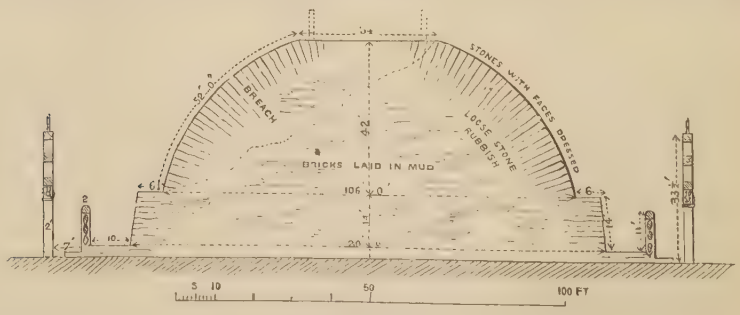
On the top of the tope is a flat space about 34 ft. in diameter, formerly surrounded by a stone railing, some parts of which are still lying there; and in the centre of this once stood a feature known to Indian archæologists as a Tee. The woodcut (No. 975), from a rock-cut example at Ajunta, represents the usual form at this age. The lower part is adorned with the usual Buddhist rail (woodcut No. 976), the upper by the conventional window, two features which are universal. It is crowned by a lid of three slabs, and no doubt either was or simulated a relic casket. No tope and no representation of a tope—and we have hundreds—are without this feature, and generally it is or was surmounted by one or more discs representing the umbrellas of state; in modern times by as many as nine of these. The only ancient wooden one now known to exist is that in the cave at Karli (woodcut No. 992), but the representations of them in stone and painting are literally thousands in number.

972. View of Sanchi Tope



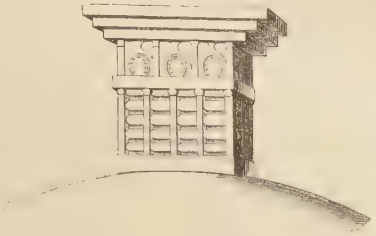
973. Plan of Tope at Sanchi.

The dome rests on a sloping base, 14 ft. in height by 120 in diameter, having an offset on its summit about 6 ft. wide. This, to judge from the representations of topes on the sculptures, must have been surrounded



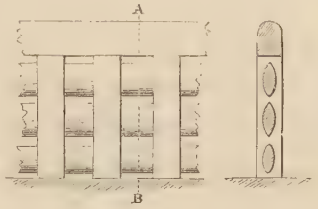
974. Section of Tope at Sanchi.

by a balustrade, and was ascended by a broad double ramp on one side. It was probably used for processions round the monument, which seem to have been among the most common Buddhist ceremonials. The centre of this great mound is quite solid, being composed of bricks laid in mud; but the exterior is faced with dressed stones. Over these was laid a coating of cement nearly 4 inches in thickness, which was, no doubt, originally adorned either with painting or ornaments in relief.



975. Tee cut in the rock on a Dagoba at Ajunta.

The fence by which this tope is surrounded is extremely curious. It consists of stone posts 8 ft. 8 in. high, and little more than 2 ft. apart. These are surmounted by a plain architrave, 2 ft. 4 in. deep, slightly rounded at the top. So far this enclosure resembles the outer circle at Stonehenge; but between every two uprights three horizontal cross-pieces of stone are inserted, of an elliptical form, of the same depth as the top piece, but only 9 in. thick in the thickest part. This is the only *built* example yet discovered of an architectural ornament which is found *carved* in every cave, and, indeed, in almost every ancient Buddhist building known in India. The upright posts or pillars of this enclosure bear inscriptions indicating that they were all given by different individuals. But neither these nor any other inscriptions found in the whole tope, or in the smaller topes surrounding it (though there are as many as 250 inscriptions in all), contain any known name, or any clue to their age.[1]



976. Stone balustrade forming the enclosure at Sanchi.

Still more curious, however, than even the stone railing are the four gateways. One of these is shown in the general view of the buildings (woodcut No. 972). It consists of two square pillars, covered with sculptures, with bold elephant capitals, rising to a height of 18 ft. 4 in.; above this are three lintels, slightly curved upwards in the centre, and ending in Ionic scrolls; they are supported by continuations of the columns, and three uprights inserted in the spaces between the lintels. They are covered with elaborate sculptures, and surmounted by emblems. The total height is 33 ft. 6 in. One gateway, the northern, has fallen, and if removed to this country would raise

[1] The celebrated Chandragupta inscription on the eastern gateway (J. A. S. B, vol. p. 454) is evidently a subsequent addition, and belongs to the 4th century A.D.

the character of Indian sculpture, as nothing comparable to it has yet been transported from that part of the world to Europe.[1]

On this gateway, on the representation of a tope, is an inscription, in the old Lât character, which does give us a clue to its date; it represents the gateway as the gift of Ananda, in the reign of Satkarni Raja. There seems no reasonable doubt that this is a king who reigned over Magadha in the first half of the first century of the Christian era. The tope itself may possibly be older, but not probably so old as the time of Asoka, and the railing and the other gateways may have been erected during the two centuries that intervened between Asoka's time and the Christian era.

Few things are more important to those interested in the early development of the Buddhist religion than the sculptures of these gateways. They are extremely extensive,[2] and form a perfect Bible of Buddhist ritualism as it was practised while Christianity was being preached in Judea. The worship of relics, as symbolised by the adoration of the tope, occurs at least twenty times, and seems the most important form; next to this comes tree-worship, the adoration of the Bo-tree being repeated nearly as often. After these two come various symbols, the meaning of which is not so clear, and need not be entered on here. They are of much less importance than relic and tree worship. No representation of Buddha occurs, and no trace of serpent-worship anywhere.

Besides the subjects relating to religion are numerous bas-reliefs representing scenes of war and the peaceful occupations of men and women, corresponding to the well-known paintings on the Egyptian tombs. In short, life in India, as it was about the time of the Christian era, is fully represented in these sculptures, and there alone, so far as we at present know.

Representations of the other topes in the neighbourhood, with accounts of the opening of them, are given in General Cunningham's work. Several of them very much resemble the great one, but some are nearly on the same scale, and all appear to be of about the same age. There seems no reason for supposing that any are so early as the age of Asoka, B.C. 250, or so late as that of Salivahana, 79 A.D., but they probably all range between these two epochs.

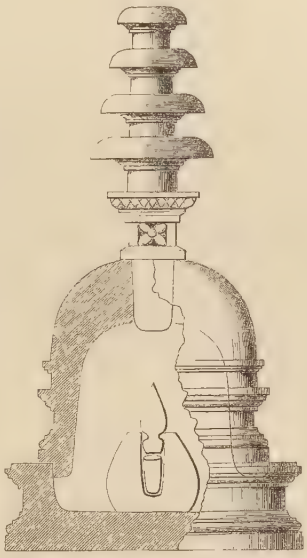
Manikyala.

Next in importance to the Bilsah group of topes is that at Manikyala in the Punjab, situated between the Indus and the Jelum or

[1] One of these gateways is engraved in great detail, and to a large scale, as a title-page to the author's 'Illustrations of Indian Architecture.'

[2] I possess a very complete set of photographs illustrative of these sculptures, made and presented to me by Lieut. Waterhouse, R.A., now attached to the Surveyor-General's department in Bengal.

Hydaspes. Fifteen or twenty of these are found at this place, most of which were opened by General Ventura and Mr. Court about the year 1830, when several of them yielded relics of great value, though no record has been preserved of the greater part of the excavations. In one opened by Mr. Court, a square chamber was found at a height of 10 ft. above the ground-level. In this was a gold cylinder enclosed in one of silver, and that again in one of copper. The inner one contained four gold coins, ten precious stones, and four pearls. These were, no doubt, the relics which the tope was intended to preserve. The inscription was illegible, so that we cannot ascertain to whom they belonged. In the tope, and in the cylinders, though not in the innermost one, there were Roman silver Consular coins[1] of Mark Antony and Augustus Cæsar. The others are Bactrian and native coins, generally supposed to be near the Christian era in date, so that we can have no hesitation in ascribing the tope to the first century. It is so ruined externally that we can form no comparison of the probable age of this and the others.



977. Relic Casket from Tope at Manikyala. Found and Drawn by Gen. Cunningham.

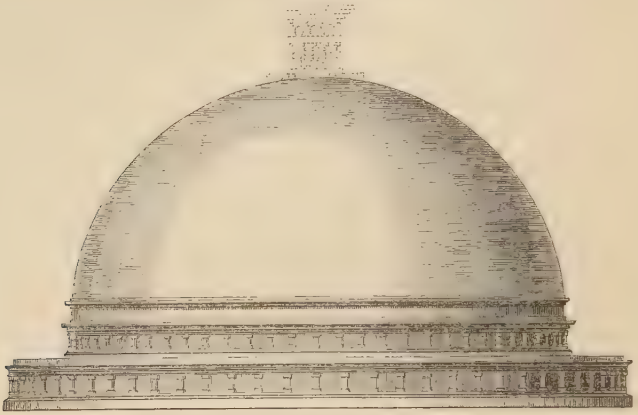
Another was recently opened by General Cunningham, in the relic chamber of which he found a copper coin, belonging to a king who is known to have reigned in this part of the country about the Christian era, and we may therefore assume that the tope was erected by him or in his time. This and other relics were enclosed in a glass-stoppered vessel, placed in a miniature representation of the tope itself, 4½ in. wide at base, and 8½ in. high (woodcut No. 977), which may be considered as a fair representation of what a tope was, or was intended to be, in that day. It is, perhaps, taller, however, than a structural example would have been; and the tee, with its four umbrellas, is, no doubt, exaggerated.

The principal tope of the group is, perhaps, the most remarkable of its class in India, though inferior in size to several in Ceylon. As will be seen from woodcut No. 978, it consists of a basement 160 ft. in diameter, as nearly as may be, 500 ft. in circumference, and 14 ft. in height; four great flights of steps, one on each face,[2] led up to a terrace

[1] J. A. S. B., vol. iii. pp. 560, 635.

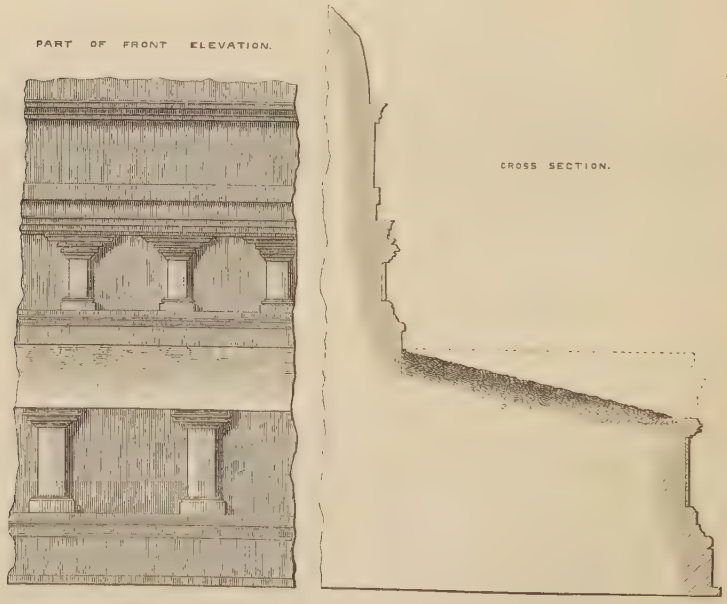
[2] These flights of stairs were discovered after the elevation was made, from which the woodcut is taken. I know them only from a photograph, which does not suffice for their restoration.

16 ft. 3 in. wide, which this wall supported, and which, indeed, seems to have been an essential adjunct to all the older topes. Above this was a second circle of pilasters, and from this sprung the dome. The whole height of the monument—as far as it can be ascertained in its



978. Restored Elevation of the Tope at Manikyala. Scale 50 ft. to 1 in.

present ruined state—is 88 or 90 ft., but to this must be added the tee, like that represented in woodcut No. 975, which must have been some 20 ft. in height, above which there were certainly one or more umbrellas, probably in wood. In the centre of the platform, on the



979. Elevation and Section of Portion of Basement of Tope at Manikyala.

summit, a well-hole of considerable depth was found, carefully built with squared stones. It was probably into this hole that the masts were stepped which supported the wooden superstructure.[1]

This tope was opened in 1830 by General Ventura; and three separate deposits of relics were found at the depths of about 25, 45, and 65 ft. respectively, each apparently increasing in value with its depth from the top. With the relics were buried a great number of coins, besides many placed intermediately between the principal deposits. These, being of the fourth or fifth century, shew that the upper deposit is certainly as modern as the time of the Sassanidæ. But the lower relics may be two centuries earlier, though the evidence on this point is by no means so clear as might be desired, nor were the excavations so carried on as to shew whether the tope reached its present dimensions by successive additions like that at Bintenne (p. 462) or whether it had been erected at once. The former was probably the case, judging from the different depths at which the relics were found.

The most important relic appears to have been a brown liquid contained in a box with an inscription on its lid; but, though now deciphered, the inscription adds little to our knowledge of its date. General Cunningham, in his archæological report for 1863–64, is inclined, from the evidence of the coins found, to bring the date of the exterior at least down to the 7th century, and on the whole, I am inclined to agree with him. The order of its architecture more closely resembles that of the Viswakarma Cave at Ellora than any

[1] In Algeria two monuments have been discovered—there may be more—which are so similar to these topes that it seems almost impossible the likeness can be accidental. One of them, called the Tomb of the Christian Lady—Kubr Roumia—is situated about forty miles from Algiers, on one of the culminating points of the Sahel. It is said to have been recently opened by M. Berbrugger, but no account of the results obtained has yet reached England. The other, in the neighbourhood of Batna, is smaller, but more perfect. It is 166 ft. in diameter, and surrounded by a colonnade 16 ft. in height—the pillars are sixty in number. The whole extremely similar to that of Manikyala. On the summit is a platform, 28 ft. in diameter,* and with the usual carefully formed well-hole in the centre. The one point of difference is, that the upper part of the topes in Africa is straight-lined or conical—in Asia it is always curved or domical; but this hardly seems important.

As regards their age, their architecture certainly belongs to the Roman period (post Scipionem). Generally they are assumed to be tombs, and they may be so; but, looking at the immense number of rude stone circles, of dolmens, cromlechs, and menhirs, which surround that at Batna, there can hardly be any doubt that both are monuments of the same people, and that these races were very closely allied with those who erected the megalithic structures in the west of Europe and in Scandinavia.

All this will require careful elucidation hereafter, but, meanwhile, it may be remarked, that the monument at Batna forms a curious link between the topes at Amravati and Manikyala, and the circles at Stonehenge and Avebury.

* The particulars regarding Batna are taken from Canon Blakesley's 'Four Months in Algeria,' chap. xi.

other building in India I am acquainted with, which latter I long ago, on independent grounds, assigned to that era.

The great difference in arrangement between this and the Sanchi tope will be observed to be that the independent rail, which is so important a feature in all earlier topes, has here assumed the form of attached pilasters, just as the Greek peristyle first became a three-quarter column, and then a merely ornamental pilaster. As we shall have to point out in the sequel, this is a universal characteristic of Indian art, and explains much which, without a knowledge of it, would remain obscure.

SARNATH.

A few miles north of Benares is a group of topes, known by the name of Sarnath, the principal of which is of a tower-like form, 93 ft. in diameter, and 110 ft. in height. The lower part is cased with stone, and adorned with eight niches, surmounted by triangular canopies, and ornamented by bands of scroll-work of great beauty and delicacy. These, however, were only partially finished; for, as was always the case in India, the sculpture was added after the masonry was complete. The upper part is in a ruinous state, and was probably never completed. It has been opened,[1] but no relic or relic-chamber was found. This spot has been visited by two Chinese travellers, Fa Hian[2] in the year 405, and Hiouen Thsang in the seventh century, who describe all these topes and the purposes for which they were erected.

The great tope now standing at Sarnath seems to have been raised in the end of the 6th or beginning of the 7th century, and to be the identical one described by Hiouen Thsang. It must have replaced or enclosed that seen by Fa Hian. As neither of these travellers mentions any relics as existing here, we are perhaps justified in assuming that none were ever deposited, but that this and the neighbouring topes were erected to commemorate events in the life of Buddha.

At Keseriah, in Tirhoot, about 20 miles north of Bakra, where one of the pillars of Asoka mentioned above is found, are the ruins of what appears to have been a very large tope. But it is entirely ruined externally, and has never been explored, so that we cannot tell what was its original shape or purpose.[3] All along this line of country numerous Buddhist remains are found, all more or less ruined, and they have not yet been examined with the care necessary to ascertain

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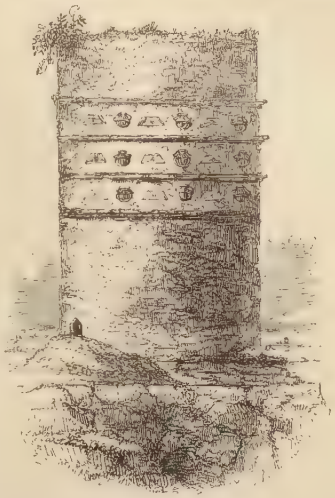
[1] This building was opened by Major Cunningham in 1830, and careful drawings made of every part of it, which were, I believe, engraved, but never published. A detailed description of the building is given by Gen. Cunningham in the Archæological Report for 1861-62.

[2] 'Fo Koue Ki,' p. 305. 'Voyages de Hiouen Thsang,' p. 133.

[3] A view of it is given, J. A. S. B., vol. iv. p. 122.

their forms This is the more to be regretted, as this was the native country of the founder of the religion, and the place where his doctrines appear to have been originally promulgated. If anything older than the age of Asoka is preserved in India, it is probably in this district that we must look for it.



980. Tower on Giriyek Hill.
From a Drawing by Mr. Ravenshaw, J. A. S. of Bengal, vol. viii. p. 353.

The annexed woodcut of a tower on the Giriyek hill south of Patna, in Behar, is copied from an engraving which is the only published representation of the object. It is ascribed by the natives to Jarasandhu, a king who lived and reigned here five or six centuries before Buddha's time. He is a favourite popular hero, like the Pandus, his contemporaries, to whom half the ancient things in India are ascribed. But there is no doubt that it is a Buddhist monument, either of Asoka's time, or a little later, and erected to commemorate some action, or the performance of some miracle.[1]

Amravati.

A very large Buddhist enclosure is found at Amravati, near the mouth of the river Kistna, in the Madras territory. It now bears the name of Dipal-dinna, or Mount of Light, but why so called has not hitherto been accounted for. The annexed plan (woodcut No. 981) will explain the general arrangement of the place. The tank shown in the centre is not an original part of the structure. Its excavation was commenced in the last century, and continued in the present, till some troubles in the district caused it to be abandoned and left, as it now is, incomplete. As far as the traditions collected by Colonel Mackenzie are intelligible, the monument in the centre was opened by a local Rajah in search of treasure, but, failing to find any, he determined to utilize the space he had cleared by forming in it a reservoir of water. These operations have effectually destroyed all trace of the original nature of the central shrine. It can scarcely have been a large and solid mound like that of Sanchi, because, if so, an immense mass of worthless material has been entirely removed, while many stones of

[1] All these monuments have been carefully examined and identified by Gen. Cunningham, acting as archæological surveyor for the Government of India, and a detailed account of them printed in his reports, and in part published in the Journal of the Asiatic Society of Bengal.

far greater value, and easily transportable, remain *in situ*. From the size of the whole enclosure, and the care and labour displayed in the parts which remain, we may conclude that the central shrine was some object highly ornamented and of great sanctity.[1]

981. Tope of Amravati. From a MS. plan in the India House. Scale 100 ft. to 1 in.

The parts remaining consist principally of two concentric circles of upright stones, the outer, 193 ft. in diameter, and between the two a paved pathway 13 ft. in width. The upright stones are not, like those of the Druidical circles in Europe, mere unshaped masses, but are carved with a minuteness unknown anywhere else, even in India. This may be seen both in the elaborate and beautiful drawings which Colonel Mackenzie caused to be made of them—copies of which exist at Madras, Calcutta, and in the India House Library—and also in specimens of the stones themselves, which he sent to all these places. With our imperfect knowledge of Buddhist history, it is impossible to identify many of the scenes and subjects represented, but they certainly form one of the most complete illustrations conceivable of Buddhist forms and traditions.

Besides these two circles of stones, the remains of two of its gateways (out of four that probably originally existed) have been exhumed, though the drawings do not suffice to explain what their form and elevation were. We may, however, believe them to have been of the same character with those at Sanchi above described, as very similar gateways are more than once represented on the sculptures at this very place.

The mound of earth that surrounds it, backing up the outer circle of stones, seems merely to be the rubbish from the excavation of the

[1] The particulars from which the account and plan of the Dipal-dinna are compiled are contained in 2 vols. of drawings of the monument, and some MS. notes, in the Mackenzie collection in the India Office, and a paper communicated to Mr. Buckingham by Colonel Mackenzie in March, 1822.

tank, and not at all a part of the original design. This is evident from the fact that the carving at the back of the stone, which is of the same character with that at the front, is hidden by it. The removal of this rubbish is much to be desired, and would probably lead to important discoveries. At present we cannot fix the date of the tope with any exactness. All that we can say is, that it was probably commenced in the third or fourth century of our era, and may have been continued down to the tenth or twelfth.

A great number of small of various sizes surround this great tope, but none, so far as I am aware, have been opened or examined with care. Caves too, with their walls adorned with frescoe paintings exist in the neighbourhood, but they too are unexplored.

Besides these usual accompaniments this district abounds in what are called *Pando Kolis*, being circles of unhewn stones identical in every feature with the so-called Druidical circles of Europe, except that their dimensions are smaller, their diameter being generally about from 10 to 20 ft. As far as has been ascertained, they were nearly always burying places, which seems also to have been generally the case with the circles in Europe.

Boodh Gya.

In a religious history of India the monuments at Boodh Gya ought probably to have been mentioned first among Buddhist monuments. In an architectural history they unfortunately come last, as the temple there is certainly, in its present form, the most modern Buddhist erection in India (woodcut No. 982). Very recently, however, an excavation – all the particulars of which have not reached the country – has revealed the existence of a sacred enclosure like those at Sanchi (woodcut No. 976) and Amravati (woodcut No. 984). This time, however, it is a rectangle 131 ft. from E. to W. and 95 ft. N. to S. The stone pillars of this rail are much more richly ornamented than those at Sanchi; less so, however, than those at Amravati, and might therefore be assumed to belong to some intermediate date; but till all these details are known it is not safe to speculate. Hiouen Thsang describes an enclosure here which he ascribes to Asoka, and some inscriptions in the old Lát character on these rails would seem to confirm this, but the character of such parts of the sculpture as I have seen is certainly much more modern.

The object of this colonnade was to enclose the sacred Bo-tree, pepul, *Ficus religiosa*, which stood there, and under which Sakya Muni, in the quaint language of the Buddhist scriptures, "turned the wheel of the law," in other words, expounded his doctrines. The tree, or its lineal descendant, still exists on the spot. It is seen at the back of the Temple in the next woodcut, and has certainly been worshipped there

for the last 2100 years.[1] A branch of this tree, as we shall presently see, was sent to Ceylon by Asoka, and became there the principal object of worship at Anuradhapora, and is so now.

A temple was erected, according to an inscription found on the spot, about the year 500, by a certain Amara Deva, and was seen and described by Hiouen Thsang in the 7th century, but having become ruinous, was rebuilt by the Burmese in or about the year 1306, as shewn in woodcut No. 982. From its architecture there can be little

982. Temple at Boodh Gya. From a Photograph by Mr. Peppe, C.E.

doubt that its external form, and the details of the stucco ornaments with which it is now covered, belong to the latter epoch; and so do all the parts which are arched and all the true arches. The framework of the building, however, and those parts constructed with hori-

[1] Buchanan Hamilton was told by the priests on the spot, in 1811, that it was planted there 2225 years ago, or B.C. 414, and that the temple was built 126 years afterwards, or in 289. Not a bad guess for Asoka's age in a locality where Buddhism has been so long forgotten.

zontal arches, seem to belong to the earlier erection. Its chief interest is, that it is a transitional example, half-way between the Manikyala tope (woodcut No. 978) and the porcelain tower at Nankin. Few things can be less like one another than the extremes, but all the intermediate steps can easily be traced and authenticated.

Jelalabad Topes.

The most extensive group of topes known to exist is that of Jelalabad. These are situated beyond the Indus, and therefore not strictly within the limits of India as usually defined. But they stand directly in the track by which the immigrant races usually entered India. That district, at the time when they were erected, and indeed long before, was so closely connected with India as to be almost always confounded with it by the earlier historians.

The oldest tope hitherto discovered in these parts, or probably indeed in India, is one at Jamalgiri, 30 miles north of Peshawur.

It consists of a circular building, probably 20 ft. in diameter,[1] ornamented by eighteen figures of Buddha sitting in the usual cross-legged position, each figure separated from the one next to it by a pilaster of Corinthian design.

This central building is surrounded by an enclosure probably 50 ft. in diameter—a polygon of thirteen sides with an opening in each face—now a mere wall of rude masonry, but once no doubt richly ornamented. Fragments of its sculpture have been recovered, and are so nearly Greek in character, so infinitely superior in design and execution to anything else which has hitherto come home from that country,[2] as to prove incontestably that they must have been executed while the influence of the Græco-Bactrian kingdom was still strong in that quarter: a conclusion which is further confirmed by the relative importance of the enclosure, and the general architectural arrangements of the building.

A great number of the remaining topes were opened by Dr. Honigberger in the years 1833 and 1834; and the results of his numismatic discoveries have been published in Paris and elsewhere. The only account that we have of the buildings themselves is that given by Mr. Masson, who, with singular perseverance and sagacity, completed what Dr. Honigberger left undone.[3]

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[1] The building was discovered and excavated by Lieuts. Lumsden and Stokes of the Company's service, and some drawings and plans published in the Journal of the Asiatic Society of Bengal, in Nov. 1852, but without scales or dimensions, or any such description as would make the architectural arrangements intelligible.

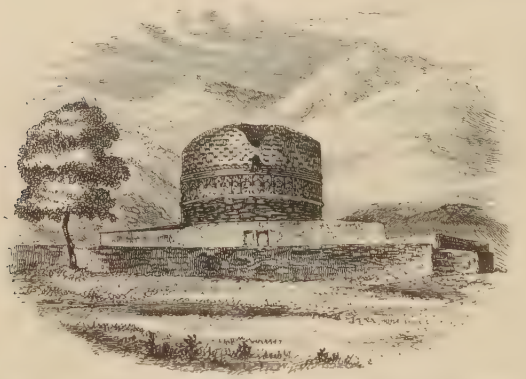
[2] These sculptures are at present deposited for exhibition in the Crystal Palace at Sydenham, by their proprietor, E. C. Bayley, Esq., B. C. S.

[3] Mr. Masson's account was communicated to Professor Wilson, and by him published in his 'Ariana Antiqua,' with lithographs from Mr. Masson's sketches, which, though not so detailed as we could wish, are still sufficient to render their form and appearance intelligible.

The topes examined and described by Mr. Masson as existing around Jelalabad are thirty-seven in number, viz. eighteen distinguished as the Darunta group, six at Chahar Bagh, and thirteen at Hidda. Of these about one-half yielded coins and relics of more or less importance, which proved the dates of their erection to extend from a few years before the Christian era to the fifth or sixth century.

In general appearance they differ considerably from the great Indian topes just described, being all taller in proportion to their breadth, and having a far more tower-like appearance, than any found in India, except the Sarnath example. They are also smaller, the largest at Darunta being only 160 ft. in circumference. This is about the usual size of the first-class topes in Afghanistan, the second class being a little more than 100 ft., while many are much smaller.

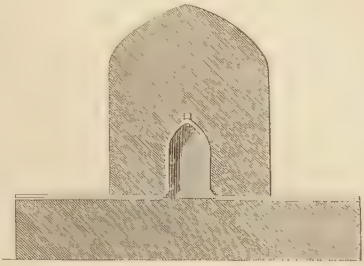
In almost every instance they seem to have rested on a square base, though in many this has been removed, and in others is buried in rubbish. Above this rises a circular base or drum, crowned by a belt, sometimes composed merely of two architectural string-courses, with different-coloured stones disposed as a diaper pattern between them. Sometimes a range of plain pilasters occupies this space. More generally the pilasters are joined by arches sometimes circular, sometimes of an ogee form. In one instance—the red tope—they are alternately circular and three-sided arches. That this belt represents the enclosing rail at Sanchi and the pilastered base at Manikyala cannot be doubted. It shows a very considerable change in style to find it elevated so far up the monument as it here is, and so completely changed from its original purpose.



983. Tope at Bimeran. From a Drawing by Mr. Masson, in Wilson's 'Ariana Antiqua.'

Generally speaking, the dome or roof rises immediately above this, but no example in this group retains its termination in a perfect state. Some appear to have had hemispherical roofs, some conical, of greater or less steepness of pitch; and some, like that represented in woodcut No. 983, were probably flat, or with only a slight elevation in the centre. It is very likely that there was some connection between the shape of the roof and the purpose for which the tope was raised. But we have no evidence to lead us to any decision of this point.

One interesting peculiarity was brought to light by Mr. Masson in his excavation of the tope at Sultanpore, and is shown in the annexed section. It is proved that the monument originally consisted of a small tope on a large square base, with the relic placed on its summit. This was afterwards increased in size by a second tope being built over it.



984. Tope, Sultanpore. From a Drawing by Mr. Masson, in Wilson's 'Ariana Antiqua.'

Besides those already mentioned there are about twenty or thirty topes in the neighbourhood of Cabul, but all much ruined, and few of any striking importance. So at least we are led to infer from Mr. Masson's very brief notice of them. No doubt many others still remain in spots hitherto unvisited by Europeans.

In the immediate vicinity of all these topes are found caves and tumuli, the former being the residences of priests, the latter for the most part burying-places, perhaps in some instances smaller relic-shrines. Their exact destination cannot be ascertained without a careful investigation by persons thoroughly conversant with the subject. There are many points of great interest which still require to be cleared up by actual examination. When this has been done we may hope to be able to judge with some certainty of their affinity with the Indian buildings on the one hand, and those of Persia on the other.

Tumuli.

The tumuli of India now remaining have no features which would entitle them to be regarded as architectural objects. In fact they differ little from the barrows of Europe and other parts of the world: and this analogy is of itself worthy of remark. But it is by no means certain that the tumuli were all as devoid of decoration from the first; for in Ceylon, Thibet, and other Buddhist countries, the tombs of princes and distinguished individuals are built and ornamented exactly like the topes. It is far from certain also that the same may not be true with regard to some of those in Afghanistan.

It must, however, be borne in mind that, though Buddhism was a Turanian religion, it was a refinement—a sublimation, if the expression may be used—of the previous forms and practices used in less civilized communities. In pre-Buddhistic times the tumulus or tomb was the principal form of architectural development, and the object of special

veneration, not only in Northern and Western Asia but in Etruria, and as far west as the British isles, wherever, indeed, ancestral worship was the prevailing form of religious belief. In India the Buddhists conformed to the long-established practice of burning their dead, and the tomb became not the receptacle of a body but of a relic. As in mediæval Europe, the sarcophagus became a stone altar. No one can doubt that the tope is the lineal descendant of the tumulus; but wherever it was an object of veneration by the Buddhists, it was so as containing some relic of some saint, not as a sepulchre covering the mortal remains of either king or priest.

CHAPTER III.

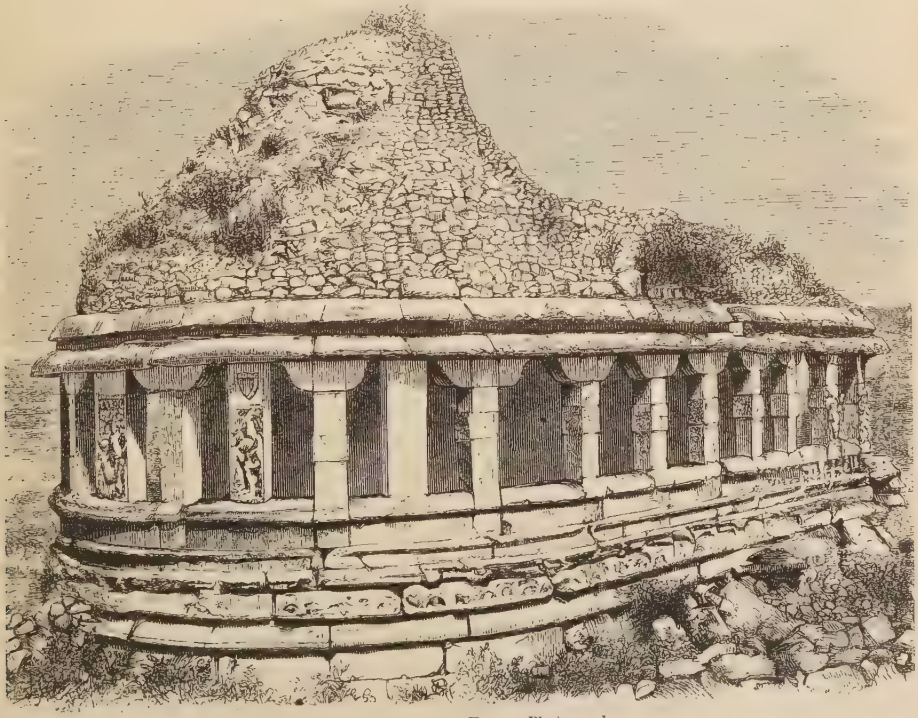
ROCK-CUT TEMPLES.

CONTENTS.

Chaityas, or Temples — Behar Caves — Caves at Karli, Ajunta, Ellora, and Salsette — Viharas, or Monasteries — Bengal Caves — Western Caves — Ornamentation of the Caves — Pillars — Raths of Mahavellipore.

Chaityas, or Temples.

As before hinted, we are almost wholly dependent on rock-cut examples for our knowledge of these sacred edifices of the Buddhists. There is one structural example at Sanchi,[1] which, as it now stands, is merely a chain of upright stone posts, supporting stone architraves very little



985. Temple at Iwullee. From a Photograph.

[1] See plan in Cunningham's 'Bilsah Topes,' Plate I. fig. 3.

less rude than those of Stonehenge, which it very much resembles both in plan and dimensions. It would require excavation, and a more careful examination than it has yet received, to ascertain whether it even was roofed, or was enclosed by another wall. According to present appearances it had neither; but too little is known to justify any inference from this. There is another temple at Iwullee in Dharwar, which, though now dedicated to Siva, seems originally to have been a Buddhist Chaitya. At least, its apse reproduces what we may fancy was once their external form. It, has however, been used as a fortification; its upper part is destroyed, and altogether it will only be when some competent architect examines these examples on the spot, that we shall really know how far they elucidate the matter.[1]

With these two exceptions, we are left wholly to rock-cut examples. These, fortunately, are so numerous that we have no difficulty either as to their arrangement or style of decoration internally, nor much, indeed, even as to their external appearance, though that must be deduced more from sculptured and painted representations than from actual examples.

The descriptions hitherto published are not sufficient to enable us to form a complete statistical account of the cave-temples of India, as they are usually called. I have myself visited and described all the most important of them;[2] and in an interesting paper, communicated to the Bombay branch of the Asiatic Society by the Rev. Dr. Wilson, he enumerated thirty-seven different groups of caves, more or less known to Europeans. This number is exclusive of those in Bengal and Madras, and new ones are daily being discovered; we may therefore fairly assume that certainly more than forty, and probably nearly fifty, groups of caves exist in India Proper.

Some of these groups contain as many as 100 different and distinct excavations, many not more than ten or a dozen; but altogether I feel convinced that not less than 1000 distinct specimens are to be found. Of these probably 100 may be of Brahminical or Jaina origin; the remaining 900 are Buddhist, either monasteries or temples, the former being incomparably the more numerous class; for of the latter not more than twenty or thirty are known to exist. This difference arose,

[1] It is probable that a tolerably correct idea of the general exterior appearance of the buildings from which these caves were copied may be obtained from the *Raths* (as they are called) of Mahavellipore (described further on, p. 503). These are monuments of a much later date, and belonging to a different religion, but they correspond so nearly in all their parts with the temples and monasteries now under consideration, that we cannot doubt their being, in most respects, close copies of them.

[2] 'Illustrations of the Rock-cut Temples of India,' 1 vol., text 8vo., with folio plates. Weale, London, 1845.

no doubt, from the greater number of the viharas being grouped around built topes, as is always the case in Afghanistan; and, consequently, they did not require any rock-cut place of worship while possessed of the more usual and appropriate edifice.

The façades of the caves are generally perfect, and form an exception to what has been said of our ignorance of the exterior appearance of Indian temples and monasteries, since they are executed in the rock with all the detail that could have graced the buildings of which they are copies. In the investigation of these objects, the perfect immutability of a temple once hewn out of the live rock is a very important advantage. No repair can add to, or indeed scarcely alter, the general features of what is once so executed; and there can be no doubt that we see them now, in all essentials, exactly as originally designed. This advantage will be easily appreciated by any one who has tried to grope for the evidence for a date in design, afforded by our much-altered and often reconstructed cathedrals of the middle ages.

The geographical distribution of the caves is somewhat singular, more than nine-tenths of those now known being found within the limits of the Bombay presidency. The remainder consist of two groups in Bengal; those of Behar and Cuttack, neither of which is important in extent; one only in Madras, that of Mahavellipore; and two or three not very important groups, which have been traced in Afghanistan and the Punjaub.

I was at one time inclined to connect this remarkable local distribution with the comparative proximity of this side of India to the rock-cutting Egyptians and Ethiopians. But the coincidence can be more simply accounted for by the existence in both countries of rocks perfectly adapted to such works. The great cave district of Western India is composed of horizontal strata of amygdaloid and other cognate trap formations, generally speaking of very considerable thickness and great uniformity of texture, and possessing besides the advantage that their edges are generally exposed in perfectly perpendicular cliffs. No rock in any part of the world could either be more suited for the purpose or more favourably situated than these formations. They were easily accessible and easily worked. In the rarest possible instances are there any flaws or faults to disturb the uniformity of the design; and, when complete, they afford a perfectly dry temple or abode, singularly uniform in temperature, and more durable than any class of temple found in any other part of the world. With these advantages, we need hardly look further for an explanation of their distribution; though some collateral facts regarding their origin may perhaps reveal themselves to future explorers.

Their distribution as to time also presents a curious anomaly. So far as our knowledge now goes, the oldest are undoubtedly those of Behar and Cuttack in Bengal. These extend from 250 B.C. to about

250 A.D.; whereas the oldest on the western side—the earliest, for instance, at Ajunta and Karli—can hardly date anterior to the birth of Christ, if so early, and extend to the tenth, or perhaps even the twelfth, century of our era. Thus the practice of excavating the rock was almost immediately abandoned in the country where it arose, and was taken up and pursued to an extraordinary extent in a district where it certainly was not original.

From the time of Asoka, who, two hundred and fifty years before Christ, excavated the first cave at Rajagriha, to Indradyumna, who apparently, in the 12th century, finished the last of those at Ellora, the series is uninterrupted; and, if properly examined and drawn, the caves would furnish us with a complete religious and artistic history of the greater part of India during fourteen centuries, the darkest and most perplexing of her existence. But, although during this long period the practice was common to Buddhists, Hindus, and Jains, it ceased with the Mahomedan conquest, or before it. Hardly one excavation has been made or attempted since that period, except, perhaps, some rude Jaina monoliths in the rock at Gualior, and it may be one or two in southern India.

Behar Caves.

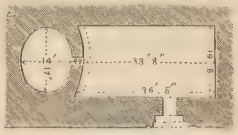
As might be expected from what we know of the history of the localities, the oldest caves in India are situated in Behar, in the neighbourhood of Rajagriha, which was the capital of Bengal at the time of the advent of Buddha. There is, indeed, one cave there which claims to be the Satapanni cave, in front of which the first convocation was held B.C. 543. It is, however, only a natural cave very slightly improved by art, and of no architectural importance.

The most interesting group is situated at a place called Barabar, sixteen miles north of Gya. One there, called the Karna Chopar, bears an inscription which records the excavation of the cave in the nineteenth year of Asoka (B.C. 245). It is very simple, and, except in a doorway with sloping jambs, of Pelasgic form, has no architectural feature of importance. The most interesting of the group is that called Lomas Rishi, which, though bearing no cotemporary inscription, certainly belongs to the same date. The frontispiece is singularly interesting, as representing in the rock the form of the structural chaityas of the age. They were apparently constructed with strong wooden posts, sloping slightly inwards, supporting a longitudinal rafter morticed into their heads, while three small blocks on each side are employed to keep the roof in form. Between the pillars was a framework of wood, which served to support five smaller rafters. Over these lies the roof, apparently formed of three thicknesses of plank, or probably two of timber planks laid reverse ways, and one of metal externally. The form of the roof is something of a pointed arch, with a slight ogee point

on the summit to form a watershed. The door, like all those of this series—and this series only—has sloping jambs.

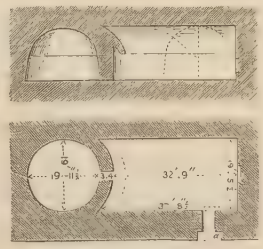
986. Façade of Lomas Rishi Cave. From a Photograph by Mr. Pepper, C.E.

The interior, as will be seen from the annexed plan, is quite plain in form, and does not seem to have been ever quite completed. It consists of a hall 33 ft. by 19, beyond which is an apartment of nearly circular form, evidently meant to represent a tope or dagoba, but at that early age the architects had not quite found out how to accomplish this in a rock-cut structure.



987. Lomas Rishi Cave.

Another cave in the same group, called the Nigope Cave, is extremely similar both in plan and dimensions; but it wants the frontispiece, though perfectly polished and complete in the interior. It is, therefore, probably an earlier example. Judging from the inscriptions on these caves, the whole were excavated between the date of the Karna Chopar and that of the Milkmaid's Cave, so called (which was excavated by Dasaratha, the grandson of Asoka), probably within fifty years of that date. They appear to range, therefore, from 250 to 300 B.C., and the Lomas Rishi is probably the most modern[1]—it certainly is the most



988. Nigope Cave, Sat Ghurba group.

[1] A very detailed account of all these caves will be found in Gen. Cunningham's 'Archæological Report' for 1861-62.

richly ornamented. No great amount of elaboration, however, is found in these examples, inasmuch as the material in which they are excavated is the hardest and most close-grained granite; and it was hardly to be expected that a people who so recently had been using nothing but wood as a building material would have patience sufficient for labours like these.

To the archæologist, one of the most interesting features about the Behar caves is the sloping form of their doorways, and this, taken in conjunction with the honeysuckle ornament (woodcut No. 968), points so distinctly to an "Ionic" or Assyrian origin, that it seems difficult to refuse the evidence it affords. It is hardly necessary to repeat that the sloping jamb is not found in Egypt, nor with the Doric order, nor in Persia; but it is found in Etruria, in Pelasgia, and generally with the Ionic order and in conjunction with the honeysuckle. Both are essentially Asiatic, though the exact spot in Asia which can claim to be their birthplace has not yet been ascertained: it probably lies further east than is generally suspected.

Karli.

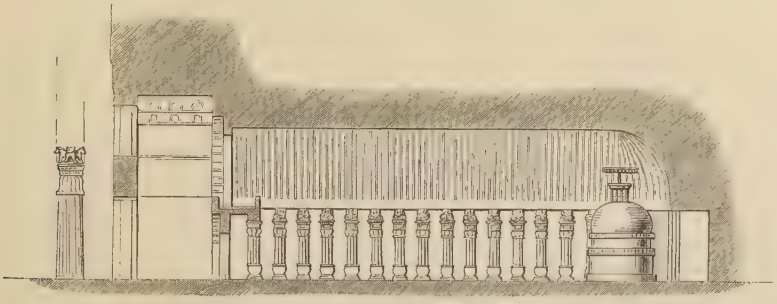
The well-known cave at Karli, situated on the road between Bombay and Poonah, is the largest as well as the most complete Chaitya hitherto discovered in India, and was excavated at a time when the style was in its greatest purity; it will, therefore, suffice to illustrate the architecture of this cave with tolerable completeness in order to make the arrangement of other, and more modern examples, intelligible.

There are no very certain grounds for fixing the date of its excavation, but we shall not err far in attributing it to the century before or after the Christian era—most probably the latter. There are some reasons for ascribing it to the era of Salivahana (A.D. 78), although this, it must be confessed, is at present little more than a mere approximation to the truth.

The building, as will be seen by the annexed illustrations, resembles, to a very great extent, an early Christian church in its arrangements; consisting of a nave and side-aisles, terminating in an apse or semi-dome, round which the aisle is carried. The general dimensions of the interior are 126 ft. from the entrance to the back wall, by 45 ft. 7 in. in width. The side-aisles, however, are very much narrower than in Christian churches, the central one being 25 ft. 7 in., so that the others are only 10 ft. wide, including the thickness of the pillars. As a scale for comparison, it may be mentioned that its arrangement and dimensions are very similar to those of the choir of Norwich Cathedral, or of the Abbaye aux Hommes at Caen, omitting the outer aisles in the latter buildings. The thickness of the piers at Norwich and Caen nearly corresponds to the breadth of the aisles in

the Indian temple. In height, however, Karli is very inferior, being only 42 or perhaps 45 ft. from the floor to the apex, as nearly as can be ascertained.

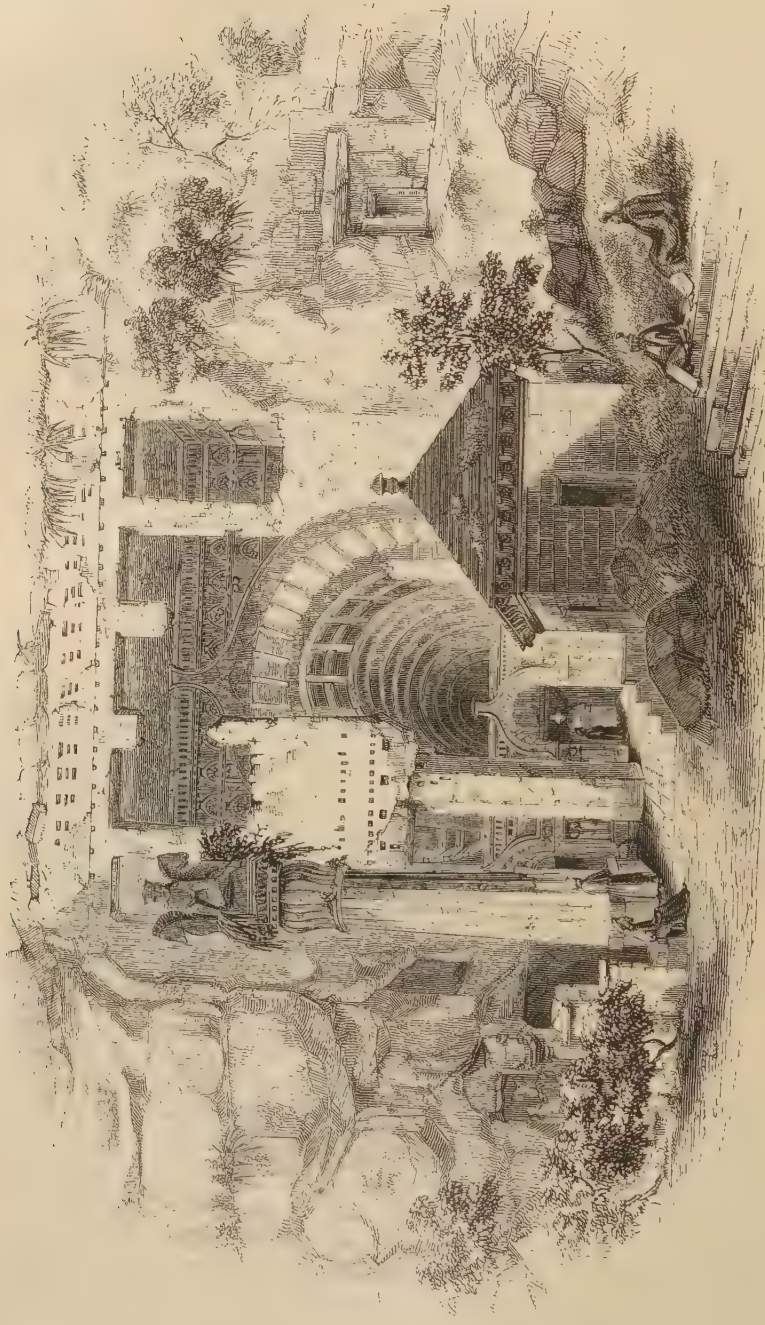
Fifteen pillars on each side separate the nave from the aisles; each pillar has a tall base, an octagonal shaft, and richly ornamented capital, on which kneel two elephants, each bearing two figures, generally a man and a woman, but sometimes two females, all very much better executed than such ornaments usually are. The seven pillars behind the altar are plain octagonal piers, without either base or capital, and the four under the entrance gallery differ considerably



989. Section of Cave at Karli. Scale 50 ft. to 1 in.

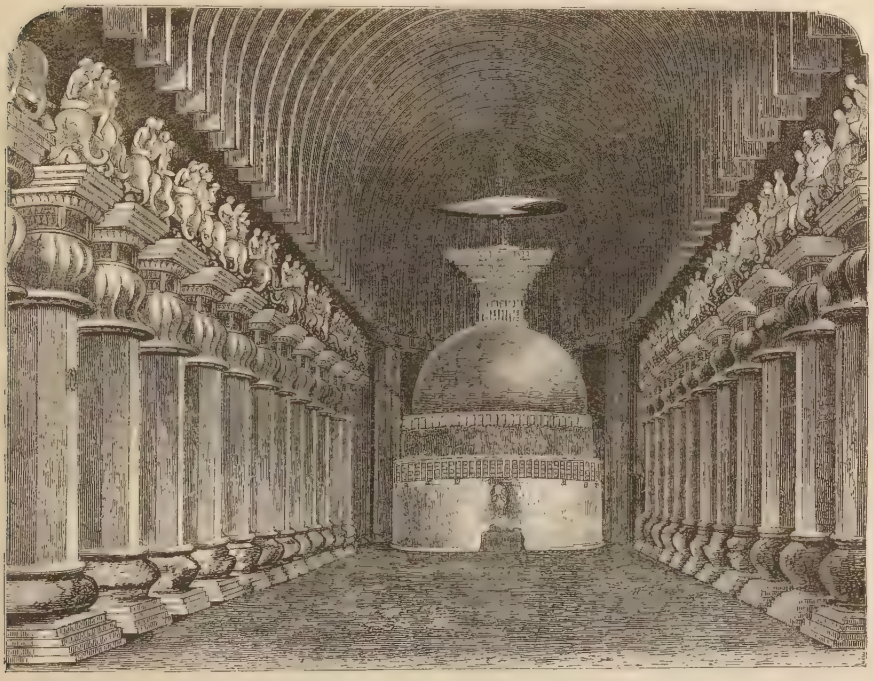
990. Plan of Cave at Karli. Scale 50 ft. to 1 in.

from those at the sides. The sculptures on the capitals supply the place usually occupied by frieze and cornice in Grecian architecture; and in other examples plain painted surfaces occupy the same space. Above this springs the roof, semicircular in general section, but somewhat stilted at the sides, so as to make its height greater than the semi-diameter. It is ornamented even at this day by a series of wooden ribs, probably coeval with the excavation, which prove beyond the shadow of a doubt that the roof is not a copy of a masonry arch, but of some sort of timber construction which we cannot now very well understand.



991. View of Cave at Karli. From a Drawing by Mr. Salt, corrected by the Author

Immediately under the semidome of the apse, and nearly where the altar stands in Christian churches, is placed the dagoba, in this instance a plain dome slightly stilted on a circular drum. As there are no ornaments on it now, and no mortices for woodwork, it probably was originally plastered and painted, or may have been adorned with hangings, which some of the sculptured representations would lead us to suppose was the usual mode of ornamenting these altars. It is surmounted by a Tee, the base of which is similar to the one shown on woodcut No. 957, and on this still stand the remains of an umbrella in wood, very much decayed and distorted by age.



992. View of Interior of Cave at Karli. From a Photograph.

Opposite this is the entrance, under a gallery exactly corresponding with our roodloft, consisting of three doorways, one leading to the centre, and one to each of the side-aisles; and over the gallery the whole end of the hall is open, forming one great window, through which all the light is admitted. This great window is formed in the shape of a horseshoe, and exactly resembles those used as ornaments on the upper part of the Tee found at Ajunta (woodcut 975), and the arches which surmount the niches in the hall of the oldest monastery cave at Ajunta, to be described hereafter. Within the arch is a framework or centering of wood standing free (woodcut No. 991). This, so

far as we can judge, is, like the ribs of the interior, cœval with the building; at all events, if it has been renewed, it is an exact copy of the original form, for it is found repeated in stone in all the niches of the façade, over the doorways, and generally as an ornament everywhere, and with the Buddhist "rail," copied from Sanchi, forms the most usual ornament of the style.

The presence of the woodwork is an additional proof, if any were wanted, that there were no arches of construction in any of these Buddhist buildings. There neither were nor are any in any Indian building anterior to the Mahomedan Conquest, and very few indeed in any Hindu building afterwards.

To return, however, to Karli, the outer porch is considerably wider than the body of the building, being 52 ft. wide, and is closed in front by a screen composed of two stout octagonal pillars, without either base or capital, supporting what is now a plain mass of rock, but was once ornamented by a wooden gallery which formed the principal ornament of the façade. Above this a dwarf colonnade or attic of four columns between pilasters admitted light to the great window, and this again was surmounted by a wooden cornice or ornament of some sort, though we cannot now restore it, since only the mortices remain that attached it to the rock.

In advance of this screen stands the lion-pillar, in this instance a plain shaft with thirty-two flutes, or rather faces, surmounted by a capital not unlike that at Kesariah (woodcut No. 969), but in this instance supporting four lions instead of one. A similar pillar probably stood on the opposite side, but it has either fallen or been taken down to make way for the little temple that now occupies its place.

The absence of the wooden ornaments of the external porch, as well as our ignorance of the mode in which this temple was finished laterally, and the porch joined to the main temple, prevents us from judging of the effect of the front in its perfect state. But the proportions of such parts as remain are so good, and the effect of the whole so pleasing, that there can be little hesitation in ascribing to such a design a tolerably high rank among architectural compositions.

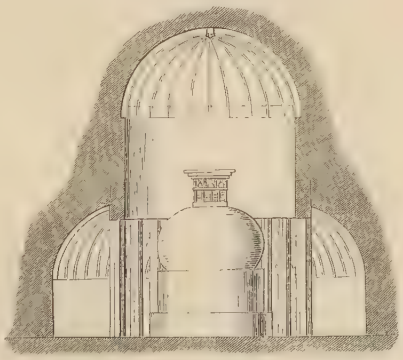
Of the interior we can judge perfectly, and it certainly is as solemn and grand as any interior can well be, and the mode of lighting the most perfect—one undivided volume of light coming through a single opening overhead at a very favourable angle, and falling directly on the altar or principal object in the building, leaving the rest in comparative obscurity. The effect is considerably heightened by the closely set thick columns that divide the three aisles from one another, as they suffice to prevent the boundary walls from ever being seen, and, as there are no openings in the walls, the view between the pillars is practically unlimited.

These peculiarities are found more or less developed in all the other caves of the same class in India, varying only with the age and the gradual change that took place from the more purely wooden forms of this cave to the lithic or stone architecture of the more modern ones. This is the principal test by which their relative ages can be determined, and it proves incontestably that the Karli cave was excavated very shortly after stone came to be used as a building-material in India.

The following[1] list, of which I have placed Karli at the head for the sake of comparison, includes, I believe, the seven most beautiful, or at least best known, examples of this class. There are many other cave-temples scattered through the various groups of the western ghâts, but none of them have either been drawn or described in such a manner as to allow of their being classified or even enumerated in such a work as this.

	Length.	Width.	Probable age.
Karli	ft. 126·	ft. 45·7	1st century after Christ.
Ajunta (No. 10) . .	94·6	41·3	Ditto. (?)
Do. (No. 9) . .	45·	23·	2nd or 3rd century.
Do. (No. 19) . .	46·4	23·7	5th century.
Do. (No. 26) . .	66·1	36·3	9th or 10th century.
Viswakarma, Ellora .	85·1	43·	7th or 8th century.
Kanari	88·6	39·10	9th or 10th century.

As will be seen from this list, the next in age and size to Karli is the oldest cave at Ajunta.[2] The two are indeed very similar, except that at Ajunta all the pillars are plain octagons, without either capital or base. They are stuccoed, and painted with figures of Buddha and of various saints. Above the pillars is a plain space or belt, corresponding in position to the triforium of a mediæval cathedral, but in the Indian examples ornamented with painting or sculpture illustrative of the purposes to which the temple was dedicated. Over this rises the roof, somewhat flatter than the Karli one, but like it adorned with wooden ribs; in this instance, however, these have perished, and left only their marks and fastenings behind. But in the aisles the wooden ribs are represented by stone ones, carved out of the solid rock. This would seem to indi-

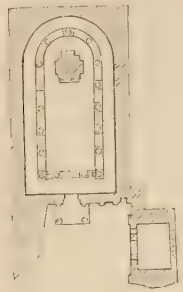


993. Cross-Section of Cave No. 10, Ajunta. No scale.

[1] All these I have myself visited and measured.

[2] The tee of its dagoba is drawn (woodcut 975); a view of its interior is given in the 'Illustrations of the Rock-cut Temples of India,' Plate III.

cate an advance in style, and consequently a more modern date; but the greater simplicity of other parts precludes the idea of any great difference in age. Its section will be understood by the woodcut (No. 993), which also explains the arrangement of all the caves, and may give us some notion of the exterior form of the buildings which these caves imitate.



994. Chaitya No. 19, at Ajunta. Scale 50 ft. to 1 in.

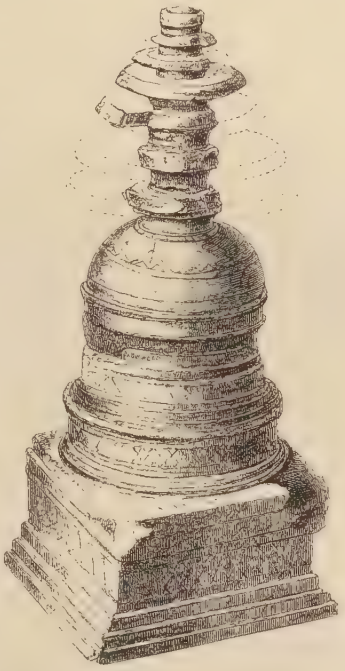
The next cave, No. 9, is nearly similar to this, except in size, and has less appearance of age than its neighbour; it is, however, very much ruined, and both of them have lost their façades, owing to the decay of the precipice in the face of which they were excavated.

No. 19, at Ajunta, is one of the most perfect of the class in India, having been excavated before the style had become utterly degenerate, but after all the essential parts of the style had been so long and so frequently repeated in stone, that they had lost the raw appearance of their wooden originals, and had in consequence become, strictly speaking, architectural features. Its dimensions, as will be seen from the plan (woodcut No. 994), are very small as compared with Karli; both are drawn to the same scale, and its dagoba (No. 995) shows the same progress as the other parts of the Chaitya. The drum and dome are both very much taller, and, instead of the one wooden umbrella, we have here three in stone, but so unlike the type, that if we could not trace the intermediate steps, we might doubt what their original really was. No greater number of umbrellas is found in any rock-cut example, but in models we find six, as in that found at Sultanpore (woodcut No. 996), near Jellalabad, probably belonging to the 3rd century—not later; and many small models are found at Behar with nine, which seems the typical number in modern times.

995. Rock cut Dagoba at Ajunta. From a Drawing by the Author.

No. 26, at Ajunta, although very similar in many respects to No. 19, was excavated at too late a period to retain much purity of style, and all its details are coarse and clumsy when compared with the last: while its sculpture shows such a degenerate tendency towards modern Hinduism, as to denote that the style was at its last gasp when this cave was commenced.

The well-known cave, the Viswakarma, at Ellora, occupies an intermediate place between the two last-named. In it the style has become so completely a stone one, that, had we no knowledge of the earlier wooden originals, we might be led to suppose that many of the forms and details arose from the exigences of construction and vaulting. It is certain from the earlier examples that this was not the case, for we are able in every detail to trace the transition from wood to stone, without missing a single link of the chain of evidence.



996. Small Model found in the Tope at Sultanpore.

The last cave mentioned in the list, that of Kannari, at Salsette, near Bombay, is, I am convinced, for reasons stated at length elsewhere,[1] merely a copy of the Karli cave, executed at a time when Buddhist art had greatly decayed, and mere copying had taken the place of original design and thought. It resembles its great prototype in every respect, both externally and internally, except in such a complete degradation of style as to form a puzzle to an antiquary on any other hypothesis than that suggested above.

Although the style begins in wood and ends in stone, it is not a little startling to find so little change either in the plan or general disposition of these caves during the ten centuries through which we can certainly trace them. The cave at Kannari, or the last at Ajunta, is practically identical with that at Karli, in so far as its general plan and design is concerned, and even the last retains so strong a reminiscence of its wooden origin, that we have little reason to doubt that the practice of erecting such halls in

[1] 'Illustrations of the Rock-cut Temples of India,' by the Author, to which I must refer for further particulars and illustrations of all these examples.

that perishable material was continued contemporaneously. All this, however, requires much careful looking into before we can speak positively on the subject. The main outlines are clear, the details require filling in.

VIHARAS OR MONASTERIES.

FROM the nature of the structure, it seems probable that the rock-cut monasteries differ more widely from their structural prototypes than the Chaityas did. The latter were, by their form, so well suited for rock excavation that it was probably this circumstance that first suggested the idea; but to excavate a residence in the solid rock for a large number of priests was a much more difficult problem, and one that never was so successfully accomplished. None of the Behar caves can properly be called monasteries; but some of those in Cuttack certainly were residences. Many of these are single cells, some residences for four or five monks; but the great development of the system took place in Western India, and at a period subsequent to the Christian era.

The number of priests in the most flourishing times of Buddhism appears to have been enormous. The records show that it must have exceeded that of Roman Catholic monks in the middle ages. In fact, no religion probably ever indulged in a more excessive priesthood, and none more certainly sank beneath the weight of sacerdotal indolence and corruption. We may conclude from this that the number and size of the monasteries was very great: and we have reason to believe, both from descriptions and tradition, that many of them were buildings of several storeys in height. It is true that we have very slight traces of this in the cave-monasteries; for in most instances, even where we find them in two or three stages, one above the other, they are distinct excavations, and have no connection one with another. The caves are, moreover, limited by the necessity of admitting light from the front only; and none of them contain more than one central hall with surrounding cells. Nor, of course, do they give any idea of what the exterior of the originals may have been; which, therefore, we can only assume from their dimensions, and what we see of their style of decoration in the rock-cut examples, to have been important and imposing objects.

General Cunningham has lately explored the vestiges of several of the great structural viharas of Bengal, and identified them with the descriptions given by Fa Hian and Hiouen Thsang. These enable us to form a tolerable idea of their extent, and also of their general disposition; but, till his plans are published, and the whole subject carefully gone over, we must be content with generalities, in so far as structural examples are concerned.

The general purposes of both the Chaityas and the monasteries are perfectly well known. Any one who has seen Buddhist priests cele-

brate either matins or vespers, or their more pompous ceremonies, in one of their Temples, will have no difficulty in understanding the use of every part of these edifices. To those who have not witnessed these ceremonies, it will suffice to say that in all the principal forms they resemble those of the Roman Catholics. It is beside the purpose of this work to trace the source of this resemblance; but it has attracted the attention of every Roman Catholic priest or missionary who has visited Buddhist countries, from the earliest missions to China to the more recent journey into Thibet of Messrs. Huc and Gabet. All the latter can suggest by way of explanation is, "quele diable y est pour beaucoup."

The same is true with regard to the monasteries. At the time when they were excavated, Buddhist priests were, as now, sworn to celibacy and poverty, and lived apart from their fellow-men in monasteries devoted wholly to religious observances. They shaved their heads, wore a peculiar garb, and obtained, like the mendicant friars, their subsistence principally by alms, which they collected by begging from house to house. Their principal duties were the study of the law and precepts of Buddha, and the continually recurring performance of an unmeaning ceremonial, in which the laity took no part. We learn from the arrangements of the caves that in some instances these ceremonies were performed within the monasteries themselves, which were all in later times provided with chapels, containing images of Buddha or of subordinate saints, before which the prayers were repeated. But in earlier times, at least, the cave monasteries were always in the immediate neighbourhood of temples; from which we may infer that either the monasteries were mere residences, and the services were performed in the temples; or that the great and solemn acts of worship took place in the temples, while the ordinary daily devotions were celebrated within the walls of the monasteries themselves.

It has been already said that the monasteries are far more numerous than the temples. From 700 to 800 examples are known at the present day, and there are probably many more. In age they extend from the simple unadorned cells excavated in the granite rocks at Behar and Cuttack, dating probably from 200 B.C., nearly to the time of the Mahomedan conquest. The culminating point, however, of this style of art, was shortly after the Christian era; the greatest number, certainly the best, having been excavated during the first five centuries after the birth of Christ.

Bengal Caves.

As already mentioned, the oldest caves in India are those in Behar. They are all, however, either small Chaityas or simple cells for the residence of single monks, and, except in the instances above mentioned, wholly devoid of architectural ornament, either externally or

internally, generally square, and with a sloping-jambed doorway. In one instance, however, the Gopi Koobha, the cell is magnified into a hall 46 ft. 5 in. by 19 ft. 2 in., with semicircular ends and a curvilinear roof, the whole being most carefully polished, which, considering the hardness of the granite rock in which it is cut, makes it a work of far more labour than many of those in the West, though the latter are generally larger, and more elaborately ornamented. Whether, however, the Gopi Khooba was a residence, or a hall for worship, is by no means clear. My impression is, that it was appropriated to the latter purpose.

The caves in the Udyagiri, near Cuttack, being cut in a far more tractable material, a fine-grained sandstone, show much more fancy and architectural magnificence in design, and consist of all the various classes and grades of such residences, from the simple cell of the solitary ascetic to the rich and populous monastery.

One of the most remarkable of the first class is the so called Tiger-cave, being in fact a large mass of rock, carved into a form intended to represent the head of that animal, whose extended jaws form the verandah leading into a small apartment excavated in the interior of the skull as shewn in the woodcut.

997. Tiger Cave, Cuttack.

Generally speaking, these single cells have a porch of two pillars to protect the doorway, which leads into a small room 10 or 12 ft. square, constituting the whole cave. Buildings on precisely the same plan are still very common in India, except that now, instead of being the abode of a hermit, the cell is occupied by an image of some god or other, and is surmounted by a low dome, or pyramidal spire, converting it into a temple of some pretensions. The lower part of these small temples, however, is very similar to the rock-cut hermitages of which we are speaking.

The next extension of the cave system was to form an oblong cell with a verandah of the same length in front of it, in plan like the Ganesa cave at Cuttack (woodcut No. 998); all the larger caves at that place being either similar in form or extensions of the same idea. The Thakoor cave, for instance, has a verandah 55 ft. in length, with wings extending forward at right angles to the principal façade. This cave, being two storeys in height, might accommodate from forty to fifty monks, whereas the Ganesa cave, supposing it to have been divided

998. Ganesa Cave. From a Plan by the Author. Scale 50 ft. to 1 in.

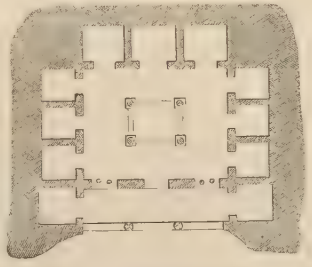
between each of the four doors it possesses, could only accommodate four or five.

In none of these caves is there seen either a shrine or any spot where one could be placed; the probability, therefore, is, that they were attached to some sacred edifice which has disappeared, and that they must have been constructed before the Christian era, as no trace of a sanctuary is found, nor any image of Buddha or of saints. The only actual worship of which there is any trace is that of the bo-tree, represented on one bas-relief in a cave called the Jodeo Gopa, proving how early that worship was introduced, and how pre-eminent it was among Buddhists in those days.

Western Caves.

Among the various groups of caves in the Bombay Presidency we find counterparts of all those existing in Bengal; but the western caves, generally speaking, have assumed a shape which makes a marked distinction between them and the older caves of Bengal. This consists in separating the cells from the hall around which they are placed—an arrangement, I believe, unknown in Eastern India. The oldest cave-monastery at Ajunta (No. 12) is a hall 36 ft. 7 in. square. It is adorned with seven niches on every side, arched in a horse-shoe shape like the great window at Karli. Of these seven niches, the first, third, fifth, and seventh are blank. The remaining three are occupied in the three inner sides by doors leading to cells, of which there are thus nine; the remaining or outer side is occupied by the entrance-door and two windows.

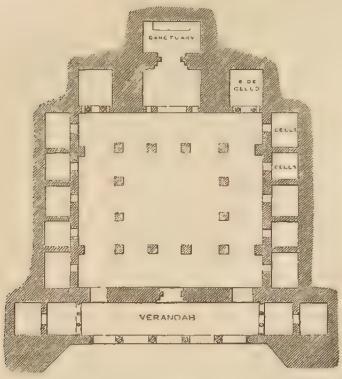
It is evident, however, that it requires the stratum of rock in which the cave is excavated to be singularly perfect to admit of such a surface being left wholly without support. The next step, therefore, seems to have been to introduce four pillars on the floor, which is done at Ajunta in the cave No. 11, next in age and situation to the one last described, which, though the area is not larger, has this necessary adjunct arranged as shown in the annexed plan.



999. Cave No. 11, at Ajunta. From a Plan by the Author. Scale 50 ft. to 1 in.

The next step was to introduce twelve pillars to support the roof, there being no intermediate number which would divide by four, and admit of an opening in the centre of every side. This arrangement is shown in the woodcut No. 1000, representing the plan of the cave No. 2, at Ajunta. Before this stage of cave architecture had been reached, the worship had degenerated consider-

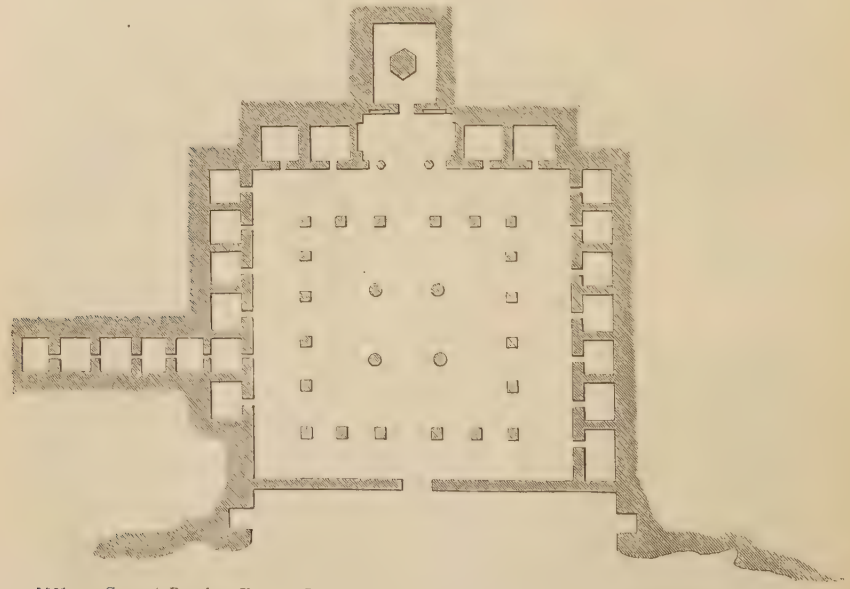
ably from its original purity; and these caves always possess a sanctuary containing an image of Buddha. There are frequently, besides this, as in the instance under consideration, two side chapels, like those in Catholic churches, containing images of subordinate saints, sometimes male, sometimes female.



1000. Cave No. 2, at Ajunta. From a Plan by the Author. Scale 50 ft. to 1 in.

The next and most extensive arrangement of these square monastery-caves is that in which twenty pillars are placed in the floor, so as to support the roof, six on each side, counting the corner pillars twice. There are several of these large caves at Ajunta and elsewhere; and one at Baugh, on the Tapty, represented in woodcut No. 1001, has, besides the ordinary complement, four additional pillars in the centre; these were introduced evidently in consequence of the rock not being sufficiently homogeneous and perfect to support itself without this additional precaution.

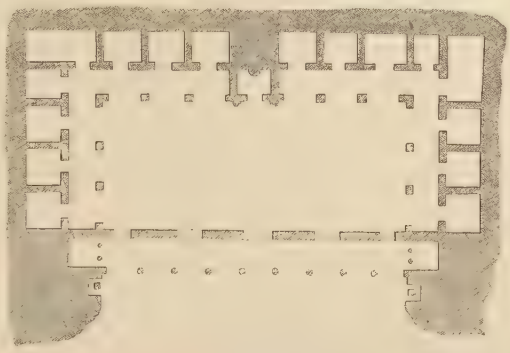
These—which might be classed, according to the terms used in Greek architecture, as astyle, when having no pillars; distyle, when with two pillars in each face; tetrastyle, with four; and hexastyle



1001. Cave at Baugh. From a Plan, by Captain Dangerfield, in the 'Transactions of the Bombay Literary Society.' Scale 50 ft. to 1 in.

with six—form the leading and most characteristic division of these excavations, and with slight modification are to be found in all the modern series.

The forms, however, of many are so various and so abnormal, that it would require a far more extended classification to enable us to describe and include them all. In many instances the great depth of the cave which this square arrangement required was felt to be inconvenient; and a more oblong form was adopted, as in the Durbar cave at Salsette, where, besides, the sanctuary is projected forward, and assists, with the pillars, to support the roof. In some examples this is carried even further, and the sanctuary, standing boldly forward to the centre of the hall, forms in reality the only support. This, however, is a late arrangement, and must be considered more as an economical than an architectural improvement. Indeed the dignity and beauty of the whole composition are almost entirely destroyed by it.



1002. Durbar Cave, Salsette. From a Plan by the Author. Scale 50 ft. to 1 in.

Ornamentation of the Caves.

The principal mode of embellishment adopted in these caves was painting, if not exactly in fresco, at least in some sort of distemper. In many, indeed in most instances, the plaster with which the walls were prepared to receive the coloured decorations has peeled off, owing either to the dampness of the rock, or to the mischievous violence of idle men. In some of the caves, however, at Ajunta and elsewhere, the paintings still remain nearly complete, and as fresh as the day they were painted. A competent artist, Captain Gill, of the Company's Service, was employed some years ago to copy these.[1] If the series had been completed it would have not only formed a most valuable illustration of Buddhist history and tradition, and of the manners and customs of India more than a thousand years ago, but would have

[1] The paintings made by Major Gill are now in the Indian gallery of the Crystal Palace. A volume, containing 78 photographic illustrations of the Rock-cut Temples, by Major Gill, was edited by the Author two years ago. It is tolerably complete, as far as the exteriors are concerned, but the interiors are too dark for photography.

illustrated to a very considerable extent the form and ordonnance of the very buildings they adorn, as many representations of architectural objects are interspersed among the figured subjects, quite sufficiently well drawn to be understood by those who are familiar with the style they belong to.

In some of the older caves not only the walls and roof, but even the pillars, are wholly covered with stucco, and ornamented with painting. This painting is divided, generally speaking, according to the following rule. On the walls are extensive compositions of figures and landscapes; on the pillars are single detached figures, representing either Buddha or Buddhist saints; while the paintings on the roof are almost invariably architectural frets and scrolls, often of extreme beauty and elegance, rivalling many of those at Pompeii and the Baths of Titus. This threefold division is in fact the only one admissible in good taste, or with the slightest possible modification where figures and conventional ornaments are to be combined.

At a later period many of the ornaments which had been painted on the earlier pillars came to be carved on them in relief, as happened in Europe in the transition from the Norman the Gothic style. The pillars were naturally the first to undergo this transformation, but it was extended in some instances to the walls, and even the roofs. In some cases there still exist traces of painting on these engraved ornaments, but it seems that in the last ages of the style the architects were satisfied with the effect produced by the light and shade of bold reliefs, and abandoned colour, to a considerable extent at least, if not altogether.

There is abundance of evidence to prove that stucco and paint were used at an early age for the adornment of the external faces of the caves; and traces of this still exist at Karli and elsewhere. In such a climate they must soon have been found perishable and unsuited to the purpose, and therefore abandoned. One of the most frequent subjects for this art is the front or principal feature of the temple itself.

This, perhaps, will be best understood by referring to the Roman or Italian style, where windows are constantly ornamented with small temple ends, or pediments, and blank spaces filled up either with blind windows crowned by pediments, or with similar forms used as niches. So at Karli (woodcut No. 991) we find all the plain faces of the hall covered with niches representing the great façade of the temple itself; and in the later caves at Ajunta these niches are always filled with cross-legged figures of Buddha or similar representations.

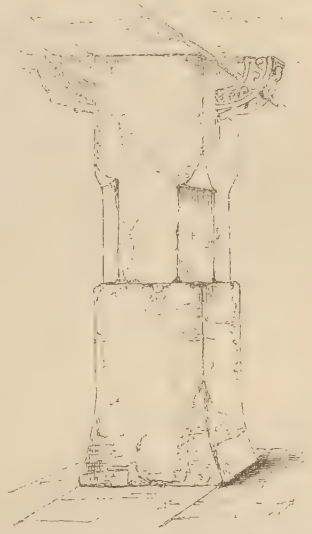
Where architectural forms in relief are used for the roofs, they are mere repetitions in stone of the wooden forms universally prevalent in India at the present day, and as common apparently then as now. The mode of construction is to lay large beams, a foot or more square, parallel to one another, and two or three feet apart, crossed by smaller timbers, about three inches square, at such distances, say one foot, as

will allow tiles to be laid upon them; these are covered with a bed of concrete and plaster, and the whole forms a solid and impervious terrace-roof.

Pillars.

The only objects requiring further notice before leaving this branch of the subject are the pillars, which in India seem never to have been of wood, and are indeed the only parts of the architecture which do not show unmistakeable evidence of their timber origin. My own impression is that this arose in India from the white ants being then, as now, the certain destroyers of any wooden object which touched the earth, and from the consequent necessity of placing some indestructible barrier between them and those parts which must necessarily be constructed of wood.[1] It is not a little curious, however, that exactly the same thing occurs in Greece. In the Doric order the pillars are masonic in every part and every detail, while in the superstructure carpentry forms prevail to the same extent as in India.

In the earliest caves, as was no doubt the case in the earliest buildings, the pillar is a square mass, from four to six diameters in height. This is brought within the domain of architecture by cutting off the angles, so as to reduce it to an octagon. In the oldest temple at Ajunta this is done for the whole height; but a more common practice is to reduce only the central part to an octagonal form, leaving the base and capital square, as in this example from the Ganesa cave at Cuttack.

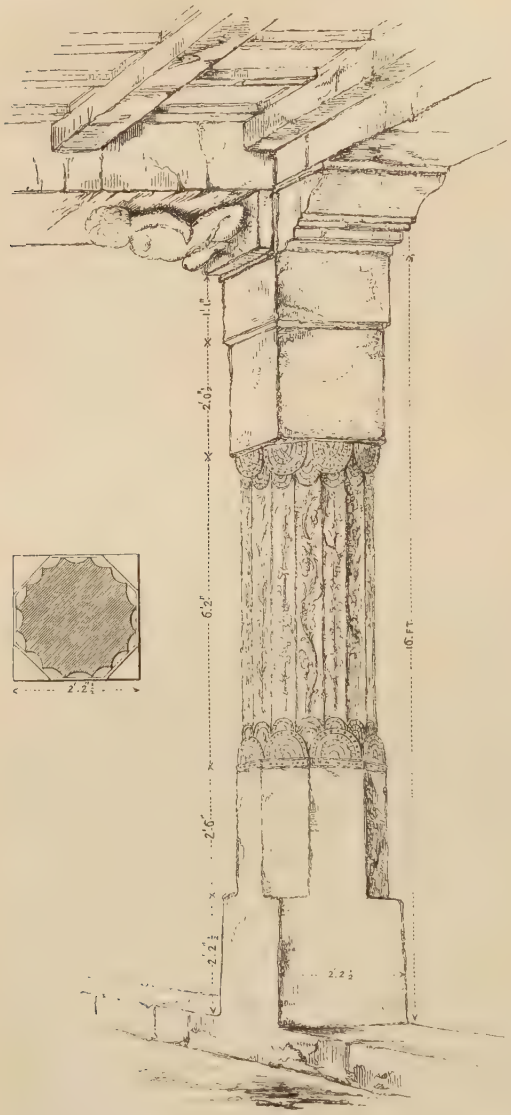


1003. Pillar in Ganesa Cave, Cuttack. From a Sketch by the Author.

This system is carried to a greater extent by again cutting off the angles of the octagon, so as to produce a shape of 16 sides; and these are sometimes fluted, as in the example on the next page from one of the monasteries (No. 17) at Ajunta. It shows also the construction of the roof explained above, consisting of larger and smaller beams, crossing one another at right angles, so as to support the tiles of the flat roof. In this example only the central part of the pillar is

[1] To an European architect this may seem a strange and insufficient explanation of the fact; but I think most of those who have resided in India will acknowledge its validity. At all events, I can suggest no better of a fact whose universality, whatever the cause may be, admits of no doubt.

adorned with painting, the plainer members being covered with stucco, but each fluting is filled with a scroll intermixed with flowers, beautifully painted, and the discs, which are introduced where the form changes from a square to a figure of sixteen sides, are also coloured.



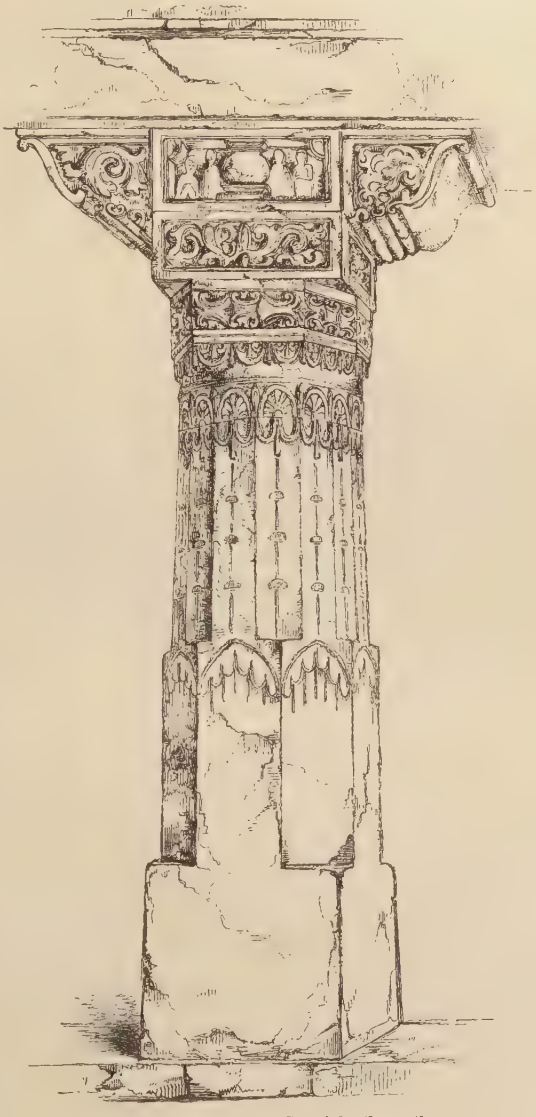
1004. Pillar in Vihara No. 17, at Ajunta. From a Sketch by the Author.

In the third example (woodcut No. 1005), the pillar changes regularly from four to eight and sixteen sides; then, as is frequently the case, a circular member is introduced, and it returns through the octagon to the square which supports the bracket, forming a whole which may be considered as the typical order of Indian architecture; the division into four, eight, and sixteen parts pervading every member of it, and the ornaments, both sculptured and coloured, being continued with increasing richness from the base, or near it, to the capital.

These, and indeed most Indian pillars, terminate upwards in a bracket capital, more or less developed. In woodcut No. 1003, one of the oldest examples in India, the capital is merely a wooden ornament repeated in stone. In the next example (No. 1004) it is more important, and in the last (No. 1005) fully developed;

though in many instances it is both wider and deeper, and more important than even in this example.

In all these instances it will be observed that the ornament is not, as in Grecian and Roman architecture, confined to the base and capital; but when ornament is attempted in India, it is nearly equally distributed over the whole surface of the pillar, from the ground to the horizontal member it is destined to support. This is a peculiarity which gives singular richness to some of the buildings, and when executed with taste is particularly effective, for internal architecture at least.



1005. Pillar at Ajunta. From a Sketch by the Author.

Another circumstance which gives considerable richness to the style is, that the pillars in a building are never exactly alike, but varied in design according to their position, or, as often happens, for the mere sake of variety. In some of the older and simpler caves, where there is little or no carving on the pillars, the variety is in the painting, and that only; but when they are carved, the variations are much more striking.

In a twenty-pillared vihara, such as woodcut No. 1001, the two

pillars on each side of the entrance are generally alike; so are those immediately beyond on the right and left; and so again are the next pair. The range on the right and left generally take their character from the last two, and those on the fourth side opposite the entrance again increase in richness towards the centre, the two most elaborately adorned being the central pair opposite the altar. When done symmetrically in this manner, the effect is singularly pleasing, though the practice cannot be defended when mere caprice seems to guide the hand of the designer. It then requires that the variation should be so slight as not to be too apparent, or the effect is far from pleasing. In all the best examples, however, these defects seem to have been avoided with singular taste and judgment.

Raths of Mahavellipore.

Before leaving the subject of Buddhist architecture in India there is one further illustration which it will be well to quote, not only as throwing light on what has been said, but also as preparing the way for what is to follow.

On the Coromandel coast, some way south of Madras, and near the village of Sadras, is a spot well known to Indian antiquaries by the name of Maha-Balipooram, or, more properly, Mahavellipore; familiar to English readers from the use Southey makes of it and its traditions in his 'Curse of Kehama.' Near this spot runs a long low ridge of granite hills, the highest part rising, perhaps 100 ft. from the level of the plain. In these hills some half-dozen caves have been excavated, and several others commenced, some as excavations, others as monoliths.[1] Between the hills and the sea-shore seven masses of granite protrude from the sands, which have been carved by the Hindus, probably about 1300 A.D. The three principal of these are represented in the annexed woodcut (No. 1006). It is evident that the object on the right imitates a Buddhist monastery of five storeys. The lower storey is wholly occupied by a great square hall; the three next possess central halls, diminishing in size according to their position, and surrounded by cells on the outside; the upper one is crowned by a dome, or rather a dome-formed termination. Altogether the building seems to represent, with great exactness, all that we know and read of the Buddhist monasteries. Nor is this a mere accidental coincidence. The time at which it was executed was very little removed from that of Buddhism in this part of India. Its being cut in the rock is obviously a peculiarity of that religion. There is little or none of the extrava-

[1] The best account of this spot and its inhabitants is that given by Dr. Babington in vol. ii. of the 'Trans. R. A. S.' See also 'Illustrations of the Rock-cut Temples of India,' by the Author. They are also described by Messrs. Chambers and Goldingham, 'Trans. A. S. B.,' and mentioned by Mrs. Graham, Bishop Heber, and others.

gance of later Hindu styles in the sculptures. We must remember, too, that neither the Jains nor the Hindus introduced anything like a new style of architecture. They adapted the Buddhist style to their own purposes, and there seems little doubt that this is a very close copy of a five-storeyed Buddhist monastery, used as a temple.

What confirms this view of the case is, that the next building, the central one in front, is the only free-standing monolithic representation I know in India of such a temple as those excavated in the rock at Ajunta and elsewhere. The front—turned from the spectator in the view—is exactly the front of one of the more modern Chaitya caves in the Bombay presidency; and we see here the rounded apsidal end with the ornaments, which may in all instances have relieved its monotony

1006. Raths, Mahavellipore. From a Sketch by the Author.

The side-aisle is here seen to be open externally, which is not the case in the caves hitherto explored, though it probably was so in buildings; but it would evidently be impossible to represent this feature in the rock. There is also an additional storey in this case, besides the ranges of cells over each of the aisles, which we have no reason to suppose existed in the older examples. But in this, as in all more modern structures of this class, we find considerable confusion between the forms of the temple and those of the monastery. This is no more than might be expected when we consider that the original purposes to which those forms were adapted had ceased to exist, and that in these late copies what were originally essential constructive necessities have become mere ornamental appendages. The third building, behind that

last described, evidently belongs to the same system; nothing like it exists structurally, so far as I know, in the south of India, though in the north there is a class of oblong temples with pointed roofs, which may be derived from the same original, and all the gateways in the south have a similar termination. There can be little doubt that it is a copy of a variety of the Buddhist temple or Chaitya, of which we have no exact representation in the caves—probably of a built Buddhist temple, for it is by no means certain that those which stood alone and were capable of receiving light from all sides would have the apse, which all the rock-cut examples have.

Although these *Raths*, as they are called locally, are comparatively modern, and belong to a different faith, they certainly constitute the best representations now known of the forms of the Buddhist buildings described in Chapter II., and make their external forms more intelligible than they could otherwise be made from the mere internal copies of them which alone we possess in the rock-cut examples. There are no essential differences which cannot be accounted for by the consideration that the sacred caves of the Buddhists were designed for a well-understood purpose—the Chaityas as temples, the Viharas as residences—which was the invariable rule in Buddhist times. When their successors, the Hindus, began to follow their example, they copied blindly and unmeaningly. When we come to speak of the architecture of the south of India, it will be seen how completely this view of the matter explains many points in the architecture which without this would be perfectly unintelligible. The Raths are, in fact, transition specimens, and as such link the two styles together, the one serving to explain the peculiarities of the other.

CHAPTER IV.

CEYLON.

CONTENTS.

Ruins at Anuradhapoora — Ruins at Mehentele — Great Monastery and Sacred Tree at Anuradhapoora — Ruins of Pollonarua.

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It will have been observed that none of the remains of Buddhist architecture described in the previous chapters are found in the great capital cities of the Empire. They are detached monuments, spared by accident in some distant corner of the land, or rock-cut examples found in remote and secluded valleys. Buddhist Palibothra has entirely perished—so has Ayodia and Vaisali; and it is with difficulty we can identify Kapilawastu, Kusinara, and other famous cities, whose magnificent monasteries and sthupas are described by the Chinese travellers in the 5th or 7th century of our era. In a great measure, this may be owing to their having been built of brick and wood; and, in that climate, vegetation is singularly destructive of the first, and insects and decay of the second. But much is also due to the country having been densely peopled ever since the expulsion of the Buddhists. It may also be remarked, that the people inhabiting the plain of Bengal since the expulsion of the Buddhists, were either followers of the Brahminical or Mahomedan religions—both inimical to them, or, at least, having no respect for their remains.

In Ceylon the case is different. The great capitals were early deserted, and the people are now Buddhists, as they have been for the last 2000 years, and there, consequently, are found cities still adorned with monuments, which, though in ruins, convey a sufficient impression of what those of India must have been in the days of her glory.

Anuradhapoora seems to have become the capital of Ceylon about 400 years before Christ, or about a century and a half after the death of Buddha, and the fabled introduction of his religion into the island.

It was not, however, till after the lapse of another 150 years that it became a sacred city, and one of the principal capitals of Buddhism in the East, which it continued to be till about the year 769, when, owing to the repeated and destructive invasions of the Malabars, the capital was removed to Pollonarua. That city flourished for two centuries; and after that, during a long period of disastrous decay, the seat of government was moved hither and thither, till the country fell into the hands of the Portuguese and Dutch, and finally succumbed to our power.

The city of Anuradhapoora is now totally deserted in the midst of an uninhabited jungle. Its public buildings must have suffered severely from the circumstances under which it perished, exposed for centuries to the attacks of foreign enemies. Besides this, the rank vegetation of Ceylon has been at work for 1000 years, stripping off all traces of plaster ornaments, and splitting the masonry in many places.

The very desolation, however, of its situation has preserved these ancient monuments from other and greater dangers. No bigoted Moslem has pulled them down to build mosques and monuments of his own faith; no indolent Hindu has allowed their materials to be used for private purposes or appropriated as private plunder; and no English magistrate has yet rendered them available for mending station-roads and bridges. We may be sure, therefore, that these ruins deserve the greatest attention from the student of Buddhist architecture, and that a vast fund of information may be drawn from them when sufficiently explored and described.

The peculiar fortune of Anuradhapoora is that it continued the capital of Ceylon for ten centuries; and, alone of all Buddhist cities, it retains something like a complete series of the remains of its greatness during that period. We possess, moreover, in the Mahawanso and other Ceylonese scriptures, a tolerably authentic account of the building of all these monuments, and of the purposes to which they were dedicated. Among the vestiges of its former grandeur still to be found, are the ruins of seven dome-shaped topes or *dagobas*, of one monastery, of a building erected to contain the sacred Bo-tree, and several other ruins and antiquities. Among these is the great mound, called the tomb of the usurper Elaala, but more probably it is a tope erected by the king Dootoogamoni to commemorate the victory over that intruder which he gained on this spot about the year 161 B.C. As it is now a mere mound, without any distinguishable outline, it will not be again alluded to.

Two of the topes are of the largest size known: one, the Abayagiri, were erected 88 B.C.; its dome is exactly hemispherical, and described with a radius of 180 ft., being thus more than 1100 ft. in circumference, and with the base and spire making up a total elevation of 244 ft., which is only 16 ft. less than the traditional height of 120

cubits assigned to it in the Mahawanso.[1] It was erected by a king Walagambahu, to commemorate his reconquest of his kingdom from a foreign usurper who had deposed him and occupied his throne for about sixteen years.

The second tope is the Jetawana, erected by a king Mahasen, A.D. 275. In form and dimensions it is almost identical with the last described, though somewhat more perfect in outline, and a few feet higher, owing probably to its being more modern than its rival. These two were commemorative monuments, and not relic-shrines.

Next to these, but far more important from its sacredness, is the Ruanwelle tope, erected by king Dootoogamoni, between the years 161 and 137 B.C., over a very imposing collection of relics, of which a full account is given in the 31st chapter of the Mahawanso. Its dimensions are very similar to those of the two last described, but it has been so much defaced, partly by violence, and partly, it seems, from a failure of the foundations, that it is not easy to ascertain either its original shape or size. The same king erected another smaller tope, 260 ft. in diameter. It is now known as the Mirisiwellya. Like the last described it is very much ruined, and not particularly interesting either from its form or history.

Besides these four large buildings there are two considerably smaller ones, known as the Thuparamya and Lankaramaya, very similar to one another in size and arrangement. The first named is represented in woodcut No. 1007. The tope itself, though small and somewhat ruined, is of a singularly elegant bell-shaped outline. Its diameter and height are nearly the same, between 50 and 60 ft.; and it stands on a platform raised about 9 ft. from the ground, on which are arranged three rows of pillars, which form by far the most important architectural ornament of the building. The inner circle stands about 2 ft. from the mound, and the other two about 10 ft. from each other. The pillars themselves are monoliths 26 ft. in height, of which the lower part, to the height of 9 ft., is left square, each side being about 1 ft. The next division, 14 ft. 6 in. in length, has the angles cut off, as is usual in this style, so as to form an octagon; the two parts being of one piece of granite. These sustain a capital of the same material, 2 ft. 6 in. in height.

Accounts differ as to the number of the pillars, as Mr. Knighton says there were originally 108;[2] whereas Capt. Chapman counted 149, and states the original number to have been 184.[3]

This relic-shrine was erected by the celebrated king Devenampiatissa, about 250 years B.C., to contain the right jawbone of Buddha, which—say the Buddhist chroniclers—descending from the skies,

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[1] The cubit of Ceylon is nearly 2 ft. 3 in. [2] J. A. S. B. for March, 1847, p. 218.
[3] 'Transactions' R. A. S., vol. iii. p. 474, and J. R. A. S.

placed itself on the crown of the monarch. As contemporary with Asoka it belongs to the most interesting period of Buddhist history, and is older, or, at least, as old, as anything now existing on the continent of India; and there is every reason to suppose it now exists, as nearly as may be, in the form in which it was originally designed, having escaped alteration, and, what is more unusual in a Buddhist relic-shrine, having escaped augmentation. When the celebrated Tooth relic was brought hither from India at the beginning of the fourth century, it was deposited in a small building erected for the purpose on one of the angles of the platform, instead of being placed, as seems generally to have been the case, in a shrine on its summit, and eventually made the centre of a new and more extended erection. Perhaps it was an unwillingness to disturb the sacred circle of pillars

1007. Thuparamya Tope. From an unpublished Lithograph by the late James Prinsep.

that prevented this being done, or it may have been that the Tooth relic, for some reason we do not now understand, was destined never to be permanently hid from the sight of its adorers. It is certain that it has been accessible during the last two thousand years, and is the only relic of its class that seems to have been similarly preserved and exhibited.

The Lankaramaya is extremely similar to the last—though considerably more modern, having been erected A.D. 221—and looks of even more recent date than it really is, in consequence of a thorough repair within the last few years, which has nearly obliterated its more ancient features.

There is still another—the Saila tope—within the limit of the city, but so ruined that its architectural features are undistinguishable, though tradition would lead us to suppose it was the oldest in the

place, belonging to a period even anterior to Sakya Muni. The spot at all events is said to have been hallowed by the presence of Kasyapa, the preceding Buddha.

Besides these, there are on the hill of Mehentele, a few miles to the north-east of the city, two important relic-shrines: one of the first class, erected on its summit to cover a hair that grew on the forehead of Buddha over his left eyebrow. The other, on a shoulder of the hill immediately below this, is of the same class as the Thuparamya; a small central building surrounded by concentric rows of granite pillars, which, as appears to have been usual when this mode of decoration was employed, rose to half the height of the central mound.

There are, in addition to these, a great number of topes of various sorts scattered over the plain, but whether any of them are particularly interesting, either from their architecture or their history, has not been ascertained, nor will be till the place is far more carefully surveyed than it has yet been.

There is another ruin at Anuradhapoora, which, if a little more perfect, would be even more interesting than these topes. It goes by the name of the Maha Lowa Paya, or Great Brazen Monastery. We have a full account in the Mahawanso of its erection by the pious king Dootoogamoni (B.C. 161), according to a plan procured from heaven for the purpose—as well as a history of its subsequent destruction and rebuildings.

When first erected it is said to have been 100 cubits or 225 ft. square, and as high as it was broad; the height was divided into nine storeys, each containing 100 cells for priests, besides halls and other indispensable apartments. Nearly 200 years after its erection (A.D. 30) it required considerable repairs, but the first great disaster occurred in the reign of the apostate Mahasena, A.D. 286, who is said to have destroyed it utterly. It was re-erected by his son, but with only five storeys instead of nine; and it never after this regained its pristine magnificence, but gradually fell into decay even before the seat of government was removed to Pollonarua. Since that time it has been completely deserted, and all that now remains are the 1600 pillars which once supported it. These generally consist of unhewn blocks of granite about 12 ft. high; some of the central ones are sculptured, and many have been split into two, apparently at the time of the great rebuilding after its destruction by Mahasena; as it is, they stand about 6 ft. apart from centre to centre in a compact phalanx, forty on each face, and covering a space of 250 or 260 ft. each way. Upon the pillars must have been placed a strong wooden framing, as in the modern Burmese monasteries, to be explained in the next chapter; upon which the remaining eight storeys rose, one above the other, each diminishing as it ascended, so that the building assumed the outline of a pyramid. This, it is true, is not distinctly asserted in the Mahawanso,

nor do the remains suffice to prove it. But we have strong evidence in its favour in the arrangement of later buildings, which there is every reason to believe were erected from this or similar models. The pyramidal shape is that adopted to this day in all Buddhist countries. If I am not very much mistaken, the many-storeyed Hindu temples in the south of India are literal copies of such buildings. They all assume the pyramidal form, and are furnished with small cells on every storey, precisely as we may suppose this to have been.[1]

We learn from the Mahawanso that the name of Brazen was applied to it in consequence of its roof of brass; and, gilt and ornamented as it no doubt was, it must have been one of the most splendid buildings of the East. It was as high as the topes, and, though not covering quite so much ground, was equal, in cubical contents, to the largest of our English cathedrals, and the body of the building was higher than any of them, omitting of course the spires, which are mere ornaments.

Its form and arrangement will be more clear when we have described, further on, the characteristics of the early Hindu style, which seems, almost without doubt, to have been copied from this.

To us these are the most interesting of the remains of the ancient city, but to a Buddhist the greatest and most sacred of the vestiges of the past is the celebrated Bo-tree. This is now reverenced and worshipped even amidst the desolation in which it stands, and has been worshipped on this spot for more than 2000 years; and thus, if not the oldest, is certainly among the most ancient of the idols that still command the adoration of mankind.

When Asoka sent his brother Mahindo, and his sister Sangamitta, to introduce Buddhism into Ceylon, one of the most precious things which they brought was a branch of the celebrated tree which still grows at Gya[2] (woodcut No. 982). The branch, so says the legend, spontaneously severed itself from the parent stem, and planted itself in a golden vase prepared for its reception. According to the prophecy, it was to be "always green, never growing, nor decaying," and certainly present appearances would go far to confirm such an assertion, for, notwithstanding its age, it is small, and, though healthy, does not seem to increase. Its being evergreen is only a characteristic of its species, the *Ficus religiosa;* our acquaintance with it, however, must

[1] Fa Hian, in describing the great rock-cut monastery of the Deccan as it existed in his time—about A.D. 400—says it had five storeys; the lower with 500 cells, the next with 400, then 300, then 200, and the upper with 100 cells. There is a good deal that is fabulous mixed with what he says about this edifice, which, besides, he never saw himself; but it is the only one he describes in such detail, and it points to a construction similar to what I have suggested in the text.—See 'Fo Koue Ki,' p. 314, *et seq.*

[2] Singularly enough, the natives of Behar ascribe the planting of their Bo-tree to Dootoogamoni, the pious king of Ceylon.—See Buchanan Hamilton's 'Statistics of Behar,' p. 76.

extend over a longer series of years than it yet does, before we can speak with certainty as to its stationary qualities.

It grows from the top of a small pyramid, which rises in three terraces, each about 12 ft. in height, in the centre of a large square enclosure close by the Maha Lowa Paya. But though the place is large, sacred, and adorned with gates of some pretension, none of the architectural features which at present surround it are such as to require notice.

Pollonarua.

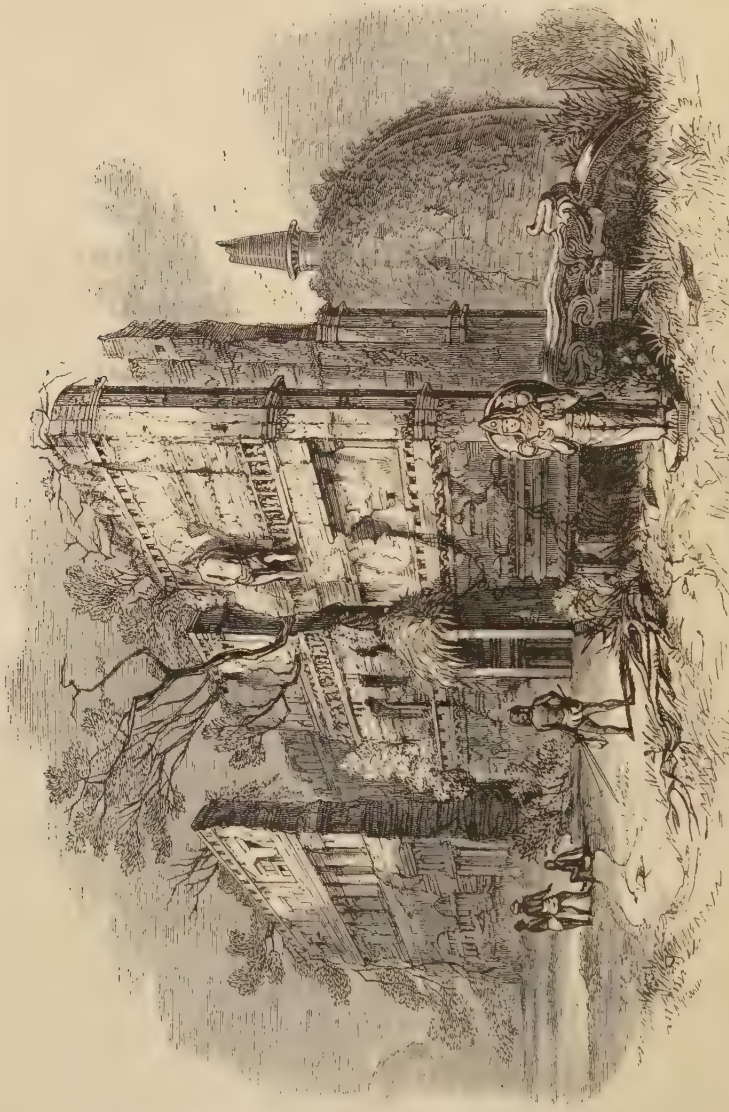
Although very much more modern in date, and consequently less pure in style, the ruins at Pollonarua are scarcely less interesting than those of the northern capital to which it succeeded. They form a link between the ancient and modern styles at a time when the Buddhists had ceased to exist, or at least to build, on the continent of India, and, when properly illustrated, will enable us to speak with confidence of what we find beyond the Ganges. All we know at present of these ruins is due to the publications of Sir Emerson Tennent,[1] which, though most valuable contributions, are far from exhausting the subject. According to this authority, the principal ruins extend in a line nearly north and south for about a mile and a half from the palace to the Gal Vihara, and comprise two dagobas, besides a number of smaller edifices. The greater part seem to have been erected during the reign of Prakrama Bahu, 1153–86, though, as the city became the capital of the kingdom in the 8th century, it is probable that an intelligent search would reveal some of earlier date; while, as it was not deserted till 1235, it is probable that some may also be more modern.

Among the oldest I would be inclined to place the Gal Vihara—so called—though it is only a rock-cut temple or chaitya, not a monastery, being merely a cell cut in the rock, with two pillars in front, and containing a seated figure of Buddha. Another larger and more ornate excavation is situated on its right, and a standing figure on its left, beyond which is a reclining figure of Buddha in the act of attaining Nirwana. This last is 45 ft. in length, and the whole very much resembles the sculptures of the Chaitya cave, No. 26, at Ajunta, from which it is probably not very distant in date.

In front of this stands the principal religious group of the city, consisting first of the Jayta Wana Rama Temple, 170 ft. long by 70 wide, containing an erect statue of Buddha 58 ft. in height (woodcut No. 1008). On one side of it is the Kiri dagoba—on the right of the woodcut—with two smaller topes, standing on raised platforms, the whole space measuring 577 ft. by 500, and was apparently at one time

[1] 'Christianity in Ceylon,' Murray, 1850; 'An Account of the Island of Ceylon,' 2 vols., Longmans, 1859.

entirely filled with objects of religious adoration. The whole certainly belongs to the age of Prakrama, and is built of brick, and plastered, which gives it an appearance of inferiority beyond what is due to the inferior style of that age.



The Jayatawanarama—Ruins of Polonarua. From Tennent's 'Christianity in Ceylon.'

1003.

Next in importance to this is the Bankot Dagoba, 186 ft. in diameter. This, though only half that of some of those of the older capital, is still larger than any known to exist on the continent of India. Its base is surrounded, like those in Burmah, by a number of small

shrines, which at this age supplied the place of the pillars or railing which formed so important a part of the structure of the older examples.

At some distance from this, and near the palace, stands the Sat Mehal Prasada (woodcut No. 1009), which is one of the most interesting buildings of the place, as it is one of the most perfect representations existing of the seven-storeyed temples of Assyria already described, vol. i. page 136, et seq. That this is a lineal descendant of the Birs Nimroud can hardly be doubted. It may also afford a hint as to the appearance of the seven-storeyed monasteries so often mentioned. But it never was a residence, nor does it simulate one, like the building represented in woodcut No. 1006.

1009. Sat Mehal Prasada. From Sir J. E. Tennent's 'Ceylon.'

In front of it lies a splendid dolmen, 26 ft. long, 4 broad, and 2 ft. thick. It would be interesting to know if the dolmen rests on the ground or is supported on three or more upright stones—most probably the latter. Like most of the Indian examples, it appears to be a squared and carved repetition of what in Europe we find only rough and unhewn. The carving in its border represents the hansa or sacred geese—always a favourite subject of the Buddhist sculptures.[1]

Close to the Sat Mehal is a circular enclosure, approached by four flights of steps, each with its two menhirs or pillars. Its centre is without any object of worship, and hypæthral, and seems always to have been so. What renders it especially interesting is, that it accentuates a belief we derive from many other indirect pieces of evidence

[1] They occur again in the earliest known sculpture in India (woodcut No. 969). It was the cackling of these sacred geese which saved the Capitol at Rome from being surprised by the Gauls.

that the enclosure[1] in Buddhist buildings was frequently more important than the thing enclosed. Thus the rail at Sanchi (woodcut No. 976), the pillars at Amravati (woodcut No. 981), the rail at Boodh Gya, the pillars of the Thuparamya (woodcut No. 1007), and many other instances, where the central object might have been omitted. The enclosed space, whether square or circular, was a sacred spot, to be marked out in a dignified manner.[2]

1010. Round House in Pollonarua. From Sir J. E. Tennent.

Except the Gal Vihara at Pollonarua, the rock-cut temples in Ceylon are generally only natural caverns slightly improved by art, and usually without any architectural features to render them valuable in illustrating the history of that art. What architecture they do possess is developed on applied façades of masonry, never of the same age as the caves themselves, and generally more remarkable for grotesqueness than beauty. Besides, the form of these caves being accidental, they want that interest which attaches so strongly to those of India, as illustrating the religious forms and ceremonies of the early Buddhists. Indeed, their only point of interest seems to consist in their being still used for the celebration of the same rites to which they were originally dedicated 2000 years ago.

[1] I believe that *Llan*, the Welsh for a church, originally meant *an enclosed space*.

[2] Between these two last named buildings and the Gal Vihara are frequent parallel rows of stone pillars. In some places eleven, in some more. It is possible that these are the foundations of houses, and mark the line of streets; but, in Sir J. E. Tennent's plans, they look so like the parallellitha of this country and Brittany, that it would be extremely interesting to know what they really are.

CHAPTER V.

BURMAH.

CONTENTS.

Forms of Burmese buildings — Dagobas at Khomadoo — Pegue — Rangoon, &c. — Monasteries.

CHRONOLOGY.

Rahamam, son of Asoka, begins to reign at Prome about	B.C. 243	Panya becomes the capital	A.D. 1300
Samundri Prome era established	A.D. 76	Pagan destroyed	1356
Samudda Raja begins to reign at Pagan	107	Panya and Chitkaing destroyed, and Ava becomes the capital	1364
Buddagosa visits Ceylon	386	Alompra in Monchabo	1752

The kingdom of Burmah, lying to the eastward of Bengal, is one of those countries which, like Ceylon, received its religion direct from India, and has retained it to the present hour, although it has long ceased to exist in its native country.

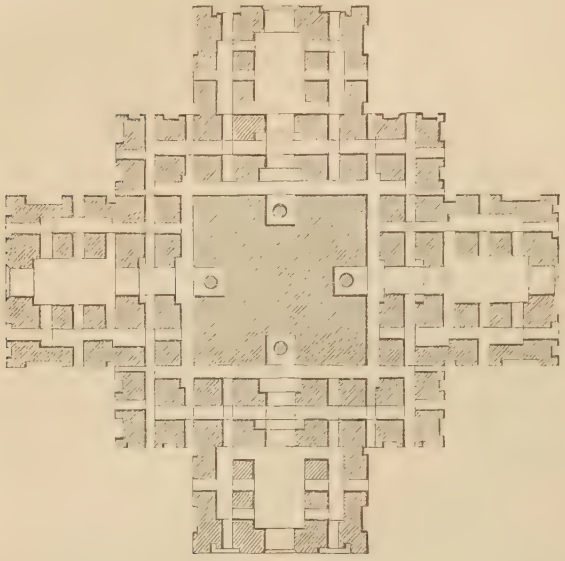
As in all Buddhist countries, its authentic annals commence with the sovereigns of Central India, who were the contemporaries of Sakya Muni, the founder of the faith. There is no record even of names of native kings till we come to the all-powerful and all pervading name of Asoka. He sent his son or grandson to the country to introduce the new faith, and to establish a regular sovereignty on the banks of the Irrawaddy, which seems, at that time, to have been very thinly peopled by nomade and half-civilised tribes.

The new king fixed his residence at Prome about the year 243 B.C., and that city continued the capital of the kingdom for some three centuries and a half. About A.D. 107 the seat of government was removed farther up the river to Pagan, which continued to be the capital for twelve centuries, when, in consequence, it is said, of some prophecy or evil omens, it was removed still farther up the river towards its south-eastern bend, where three distinct cities, Chatkaing, Ava, and Amerapoora, situated near to one another, have enjoyed with frequent changes the distinction of being the royal residence.

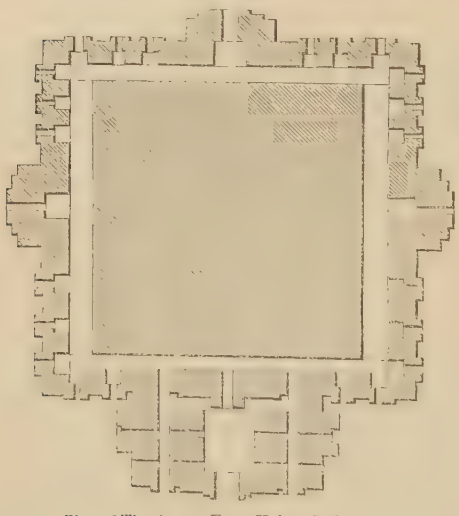
At Prome we have no knowledge of any buildings of considerable antiquity or otherwise remarkable.

The remains of Pagan cover a space extending ten or twelve miles along the river and to a depth of four or five miles inward. Our

armies, during the war in 1825, passed and repassed through the place, and it is noticed in several published narratives of journeys in the country. But it was not till the publication of Colonel Yule's 'Mission to the Court of Ava,' that we had any such representation of its edifices as would enable us to reason upon their forms or affinities. According to this authority, there may be 800 to 1000 temples still existing at Pagan. Of these, one of the most remarkable is that of Ananda. As will be seen from the annexed plan, it is a square, of nearly 200 ft. on each side, with projecting porticoes on each face, so that it measures 280 ft. across each way. Like all the great pagodas of the city, it is seven storeys in height; six of these are square and flat, each diminishing in extent, so as to give the whole a pyramidal form; the seventh, which is or simulates the cell of the temple, takes the form of a Hindoo or Jaina temple, the whole in this instance rising to the height of 183 ft.



1011. Plan of Ananda Temple. From Yule. Scale 100 ft. to 1 in.



1012. Plan of Thapinya. From Yule. Scale 100 ft. to 1 in.

Next in rank to this is the Thapinya—the Omniscient—erected about the year 1100 by the grandson of the king, who built the Ananda. It is very similar to the Ananda both in dimensions and in

plan, except that it has only one porch instead of four, and, consequently, only one great statue in its cell instead of four standing back to back. Its height is 201 feet, and it is the highest in the place.

The third in importance is called the Gaudapalen, built in 1160. This temple is smaller than those just mentioned, but makes up in richness and beauty of detail for its more diminutive dimensions.

Section of Thapinya. From Yule. Scale 50 feet to 1 in.

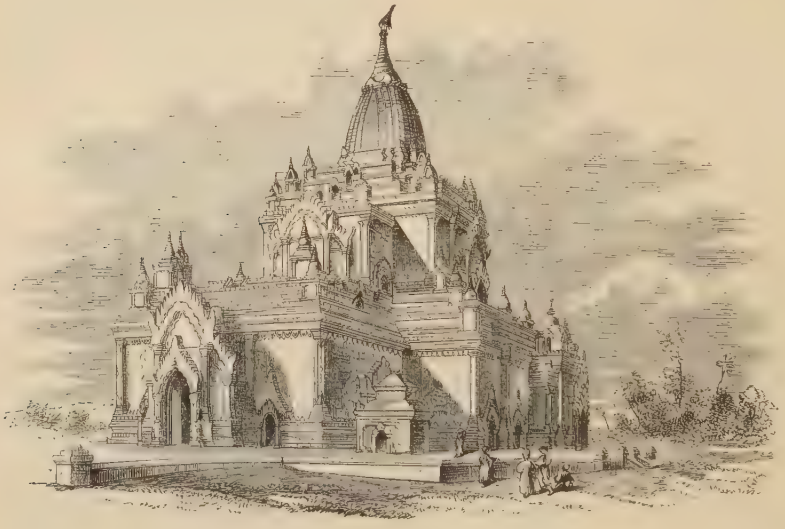
1013.

The Dhamayangyee, now in ruins, is quite equal in dimensions to the Ananda, and very much resembles it in plan and design; while one called the Sem Byo Koo is, in its details, the most beautiful of any.

The general appearance of these temples will be understood from the annexed view (woodcut No. 1014) of that called Gaudapalen, and their general arrangements from the section of the Thapinya, of which

a plan is given (woodcut No. 1012). They are all so similar that it is needless to multiply illustrations, the only real difference being in the greater or less amount of ornament in stucco which has been applied to each.

The first thing that strikes the inquirer on examining these temples is their remarkable dissimilarity with anything on the Continent of India. They are not topes in any sense of the term, nor are they viharas. The one building which they in any way resemble is the seven-storeyed Prasada at Pollonarua (woodcut No. 1009), which, no doubt, belongs to the same class. Improbable as it may at first sight appear, their real synonyms are to be found in Babylonia, not in India. The Birs Nimroud is, like them, a seven-storeyed temple, with external stairs, leading to a crowning cell or sanctuary. Of course, during the



1014. View of the Temple of Gaudapalen. From Yule.

seventeen centuries which elapsed between the erection of the two buildings, considerable changes have taken place. The lowest stairs in Burmah have become internal; in Babylonia they were apparently external. At the head of the third flight at the Birs, Sir Henry Rawlinson found the remains of three recesses. At Pagan these had been pushed into the centre of the third storey. The external flights were continued on the upper three storeys at both places; but in Babylonia they lead to what seems to have been the real sanctuary, in Burmah to a simulated one only, but of a form which, in India, always contained a cell and an image of the deity to whom the temple was dedicated.

It may be asked, How is it possible that a Babylonian form should reach Burmah without leaving traces of its passage through India? It

is hardly a sufficient answer to say it must have come *viâ* Thibet and Central Asia; because, in the present state of our knowledge, we do not know of such a route being used. It is a more probable explanation to say that such monuments may have existed in the great Gangetic cities, but, like these examples, in brick and plaster, and have perished, as they would be sure to do in that climate, and where hostile races succeeded the Buddhists. But, however it may be eventually accounted for, it does not appear to me a matter of doubt that these Burmese seven-storeyed temples are the lineal descendants of the Babylonian examples, and that we shall some day be able to supply the gaps which exist in their genealogy.

It would be, in the meanwhile, extremely interesting if some earlier examples of this form could be identified either at Prome or Pagan. They must exist; and it would be curious to ascertain when this type was introduced, and what its actual arrangements then really were.

Although this square seven-storeyed pagoda may be considered as the typical form of Burmese temples, the circular form was also adopted, but how early has not yet been ascertained. Colonel Yule describes—but, unfortunately, did not draw—one at Mengoon, on the right bank of the river, a little above Ava. "The basement, which formed the bulk of the structure, consisted of seven concentric circular terraces, each with a parapet of curious serpentine form. These parapets rose one within and above the other, like the walls of Ecbatana, as described by Herodotus. The only ascent appeared to be from the east. In the parapet of every terrace were niches looking outwards, in which were figures of Nats or warders in white marble, half-life size. A great circular wall enclosed the whole, at some distance from the base."[1] From this description, it is evidently so similar to the temple excavated by M. Place at Khorsabad (vol. i. p. 140), that a few more particulars would be extremely interesting.

Generally speaking, the circular dagobas in Burmah take a form more nearly resembling those found in India. The one most like the Indian type is that known as the Kong Madoo, not far from Mengoon, on the same side of the river. The mass of the dome, according to Colonel Yule,[2] is about 100 ft. diameter. It is taller than a semicircle—which would indicate a modern date—and stands on three concentric bases, each wider than the other. Round the whole is a railing, consisting of 784 stone pillars, each standing about 6 ft. out of the ground, and divided into four quadrants by four stone gateways. An inscription, on a white marble slab, records the erection of this pagoda between the years 1636 and 1650. I at one time thought it must be older;

[1] 'Mission to Ava,' p. 172.

[2] Ibid. p. 65.

but the evidence of recent explorations renders this date more probable than it formerly appeared. If correct, it is curious as showing how little real change had occurred during the sixteen centuries which elapsed between the erection of the tope at Sanchi (woodcut No. 972) and the seventeenth century.

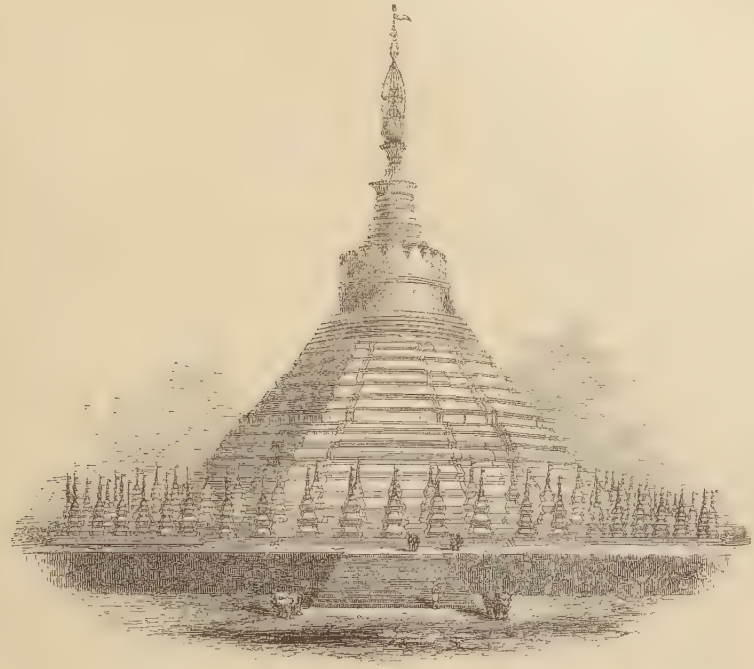
1015. Kong Madoo Dagoba. From Yule

The next in importance is the great Shoëmadoo[1] pagoda at Pegue, of which a plan and elevation are given from those published by Colonel Symes in his account of his embassy to Ava. As will be seen from the woodcuts (Nos. 1016, 1017), the plan deviates considerably from the circular form, which is exclusively used in the edifices of this class hitherto described, and approaches more nearly to those elaborately polygonal forms which are affected by all the Hindu builders of modern date. It returns, however, to the circular form before terminating, and is crowned, like all Burmese buildings of this class, by an iron spire or Tee richly gilt.

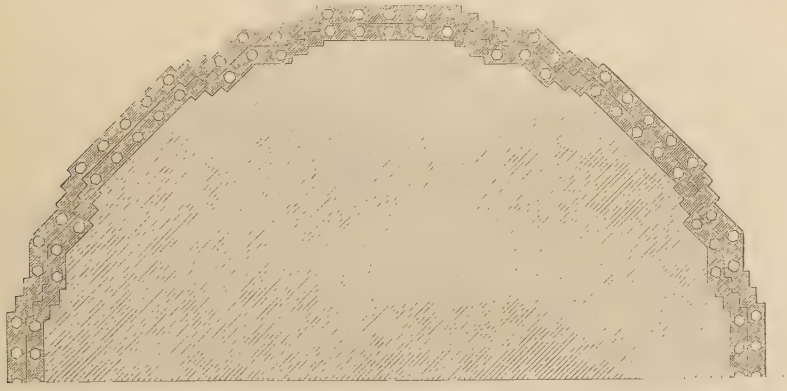
Another peculiarity is strongly indicative of its modern date; namely, that instead of a double or triple range of pillars surrounding its base, we have a double range of minute pagodas, a mode of ornamentation that subsequently became typical in Hindu architecture—their temples and spires being covered, and, indeed, composed, of innumerable models of themselves, clustered together so as to make up a whole. As before remarked, something of the same sort occurs in Roman art, where every window and opening is surmounted by a pediment, or miniature temple end, and in Gothic art, where a great spire is surrounded by pinnacles or spirelets; but in these styles it is

[1] Literally "Golden great god." Madoo is the Burmese for Maha Deva.

never carried to the same excess as in Hindu art. In the present instance it is interesting as being one of the earliest attempts at this class of decoration.



1016 Shoëmadoo Pagoda, Pegue. From Col. Symes' 'Embassy to Ava.'



1017 Half-plan of Shoëmadoo Pagoda. From Symes. Scale 100 ft. to 1 in.

The building stands on two terraces, the lower one about 10 ft. high, and 1391 ft. square; the upper one, 20 ft. in height, and 684 ft. square; from the centre rises the pagoda, the diameter of whose base

is 395 ft. The small pagodas are 27 ft. high, and 108 or 110 in number; while the great pagoda itself rises to the height of 331 ft. above its terrace, or 361 ft. above the country, thus reaching a height about equal to that of St. Paul's Cathedral; while the side of the upper terrace is only 83 ft. less than that of the great Pyramid.

Tradition ascribes its commencement to two merchants, who raised it to the height of 12 cubits at an age slightly subsequent to that of Buddha himself. Successive kings of Pegue added to it from time to time, till at last it assumed its present form, most probably about three or four centuries ago.

The third pagoda in importance, so far as we know, is the more generally known Shoëdagong pagoda at Rangoon, a building very similar in dimensions to the last, and by no means unlike it, except that the outline of the base is more cut up, and the spire more attenuated—both signs of more modern date. The base is even more crowded by little templets than that at Pegue, and its whole height is somewhat less. There is, however, no essential difference between the two buildings, and this is principally interesting as leading us one step further in the series from the solid hemispherical mound to the thin spire, which, both in Burmah and Siam, is the modern form usually assumed by these edifices, till they lose all but a traditional resemblance to the buildings from which they originally sprang.

The Shoëdagong pagoda, like all the more important ones, is fabled to have been commenced about 2300 years ago, or about the era of Buddha himself; its sanctity, however, is owing to its containing relics, not only of the last Buddha, but also of his three predecessors—Buddha having vouchsafed eight hairs of his head to its two founders, on the understanding that they were to be enshrined with the relics of the three former Buddhas, where and when found.[1] After numerous miraculous indications, on this spot were discovered the staff of Kakusanda, believed to have lived some 3000 years before Christ, the water-dipper of Konagamma, and the bathing-garment of Kasyapa, which, with the eight hairs above-mentioned, are enshrined within this great pagoda.[2] Originally, however, notwithstanding the value of its deposit, the building was small, and it is probably not more than a century since it assumed its present form.

A crowd of smaller pagodas surrounds the larger one, of all sizes, from 30 ft. to 200 ft. in height, and even more. There is scarcely a village in the country that does not possess one or two, and in all the more important towns they are numbered by hundreds; indeed, they may almost be said to be innumerable. They are almost all quite modern, and so much alike as not to merit any distinct or separate

[1] See p. 462.

[2] See account of the Great Bell at Rangoon, by the Rev. G. H. Hough, 'Asiatic Researches,' vol. xiv. p. 270.

mention. They indicate, however, a great degree of progressive wealth and power in the nation, from the earliest times to the present day, and an increasing prevalence of the Buddhistical system. This is a direct contrast to the history of Ceylon, whose glory was greatest in the earlier centuries of the Christian era, and was passing away more than 1000 years ago, at the time when the architectural history of Burmah first dawns upon us. Thus the buildings of one country are an exact continuation of those of the other, and present together a series of examples of the same class ranging over more than 2000 years, if we reckon from the oldest topes in Ceylon to the most modern in Burmah.

Curiously enough, an attempt was made in the present century to return to the old square form, and on a greater scale than ever before attempted. The king Mentara Gyé, who died 1809, commenced a pagoda at Mengoon. "It stands on a basement of five successive terraces, of little height, the lower terrace forming a square of 450 ft. From the upper terrace starts the vast cubical pile of the pagoda, 230 ft. square in plan, and rising, in a solid mass, to the height of about 100 ft., with slightly sloping walls. Above this it contracts in successive terraces, three of which had been completed, raising the mass to a height of 165 ft., at the time the work was abandoned."[1] From a model standing near, it is inferred that, if completed, it would have risen to the height of 500 ft.; it is even now a solid mass containing between 6,000,000 and 7,000,000 cubic feet of brickwork. Had it been carried out, it would have been the tallest building in the world. It was, however, shattered by an earthquake in 1839; but, even in its ruined state, is as large and imposing a mass of brickwork as is to be found anywhere. Since the pyramids of Egypt, nothing so great has been attempted, and it belongs to the 19th century!

Monasteries.

As Burmah is a country in which the monastic system of Buddhism flourishes at the present day to the fullest extent, if we had more information regarding its monasteries, or *kioums* as they are called, it might enable us to understand the arrangement of the older ones. The travellers who have visited the country have been silent on the subject, principally because the monasteries are, in almost all instances, less magnificent than the pagodas to which they are attached, and are, with scarcely an exception, built of wood—a practice destructive of their architectural character, and also depriving them wholly of that monumental appearance of stability which is so essential to true architectural expression.

[1] 'Mission to the Court of Ava,' p. 169.

This peculiarity is not confined to the monasteries; all residences, from that of the poorest peasant to the palace of the king, having been constructed from time immemorial of this perishable material. The custom has now passed into a law, that no one shall have the power

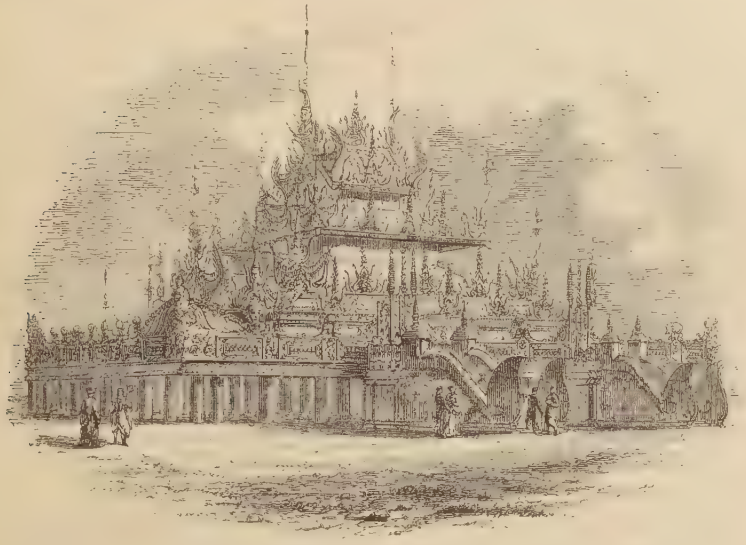
1018. Façade of the King's Palace, Burmah. From Yule.

of erecting buildings of stone or brick, except it be the king himself, or the edifices be of a purely religious character. Nor is this exception taken advantage of, for the king's palace itself is as essentially a wooden erection as the dwelling of any of his subjects. It is, however, not the

less magnificent on this account—rather, perhaps, more so—immense sums being spent on the most elaborate carvings, and the whole being lacquered, painted, and gilt, to an extent of which we have no conception in our more sober clime.

The general appearance of the façade may be realised from the annexed view (woodcut No. 1018); but its real magnificence consists in the profusion of gilding and carving with which every part is covered, and to which it is impossible to do justice on so small a scale.

The same profuse decorations are bestowed upon the monasteries, one of which is represented in the annexed woodcut (No. 1019), showing a building in which all the defects arising from the use of so easily carved a material, are carried to excess. If the colouring and gilding



1019. Burmese Kioum. From Col. Symes' 'Embassy to Ava.'

could be added, it would represent a building such as the West never saw, and, let us hope, never will see; for, however dazzling its splendour, such barbaric magnificence is worthy only of a half-civilized race.

Besides, however, its own merits, as showing the extent of richness to which this ephemeral style of art may be carried, the building is interesting as explaining how the 1600 columns of the Maha Lowa Paya of Ceylon[1] supported the lower floor of that great monastery. It also exhibits the general form of outline which I believe all these great monasteries to have possessed. The one represented here is of three storeys, but is, I believe, in outline, the same as the five or nine-

[1] See p. 509.

storeyed edifices of which we read, but of which no example now remains.

The fact that all the buildings of Burmah are of wood, except the pagodas, may also explain how it is that India possesses no architectural remains anterior to the age of Asoka. Except the comparatively few masonry pagodas, none of which existed prior to his era, there is nothing in Burmah that a conflagration of a few hours would not destroy, or the desertion of a few years entirely obliterate. That the same was the practice of India is almost certain, from the essentially wooden forms still found prevailing in all the earlier cave temples; and, if so, this fully accounts for the disappearance of all earlier monuments.

We know that wooden architecture was the characteristic of Nineveh, where all the constructive parts were formed in this perishable material; and from the Bible we learn that Solomon's edifices were chiefly so constructed. Persepolis presents us with the earliest instance in Asia of this wooden architecture being petrified, as it were—apparently in consequence of the intercourse its builders maintained with Egypt and Greece.

In Burmah these wooden types still exist in more completeness than, perhaps, in any other country. Even if the student is not prepared to admit the direct ethnographic connexion between the buildings of Burmah and Babylon—which appears to me indisputable—he will at any rate best learn in this country to appreciate much in ancient architecture, which, without such a living illustration, it is hard to understand. Solomon's House of the Cedars of Lebanon is, with mere difference of detail, reproduced at Ava or Amarapoora; and the palaces of Nineveh and Persepolis are rendered infinitely more intelligible by the study of these edifices. Burmah is almost equally important in enabling us to understand what an active, prosperous Buddhist community may have been in India at a time when that religion flourished there; and altogether, if means were available for its full elucidation, it would form one of the most interesting chapters in the History of Architecture in Asia.

CHAPTER VI.

SIAM.

CONTENTS.

Pagodas at Ayuthia and Bangkok — Hall of Audience at Bangkok — General Remarks.

Although the architecture of Siam is very much less important than that of Burmah, on the one hand, or Cambodia on the other, it is still sufficiently so to prevent its being passed over in a general summary of styles. Its worst feature, as we now know it, is, that it is so extremely modern. Up to the 14th century the capital of the country was Sokotay, a city in the Menam, 200 miles from the sea in a direct line, and situated close to the hills. This city has not been visited by any traveller in modern times, so we do not know what buildings it may contain. About the year 1350 the Siamese were successful in their wars with the Cambodians, and eventually succeeded in capturing their capital, Intha patha puri or Indra prestha, and practically annexing Cambodia to their kingdom.

Having accomplished this, they moved their capital down to Ayuthia, little more than fifty miles from the sea; and three centuries afterwards Bangkok succeeded it, and is now the capital. It is by no means certain whether this migration downwards was caused by political events and increasing commerce, or from the country gradually becoming drier and more fit for human habitation. Judging from what happened in Bengal in historical times, I should fancy it was the latter.

In India we find civilised nations first established in the Punjab, and on the watershed between the Sutlej and the Jumna. Between 1000 and 2000 years B.C. Oude seems to have become dry enough for human habitation, and Ayodia[1] (from which the Siamese capital took its name) became the chief city. Between 1000 and 500 B.C. Janakpore on the north and Rajagriha on the south were the capital cities of Bengal; but both being situated on the hills, it was not till Asoka's time (250 B.C.) that Patna on the Soane, and Vaisali on the Gunduck, became capitals; and still another 1000 years elapsed before Gour and

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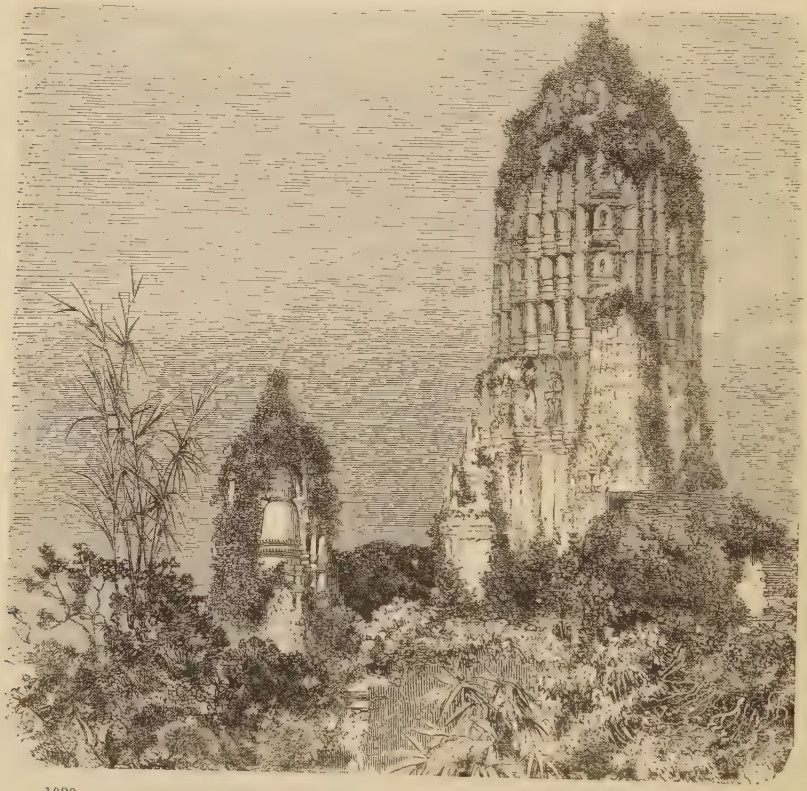
[1] The Siamese invariably change the Indian *d* into *th*.

Dacca became important, while Moorshedabad, Hooghly, and Calcutta, are cities of yesterday.[1] The same phenomenon seems to have occurred in Siam, and what is of still more interest, as we shall presently see, in Cambodia.

As Ayuthia was for three centuries the flourishing capital of one of the great building-races of the world, we should, of course, look for considerable magnificence having been displayed in its architecture. From



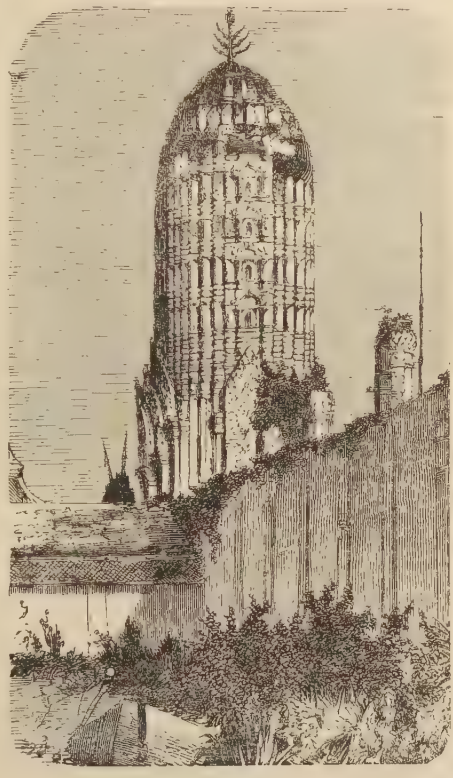
1020. Ruins of a Pagoda at Ayuthia.

the accounts of the early Portuguese and Dutch travellers who visited it in the days of its glory it seems to have merited the title they bestowed upon it of the "Venice of the East," and the remains justify their eulogiums. The buildings, however, seem to have been principally constructed of brick and wood; and as the city has now been practically deserted for more than a century, the wild fig-trees have everywhere

[1] For the particulars of this desiccation of the Valley of the Ganges, see the Journal of the Geological Society, April, 1863.

inserted their roots into the masonry, and decay has progressed rapidly among the wooden erections. As described by recent visitors, nothing can be more wildly picturesque than this once splendid city, now overgrown with jungle; but such a stage of decay is of all conditions the least favourable to the researches of the antiquary.

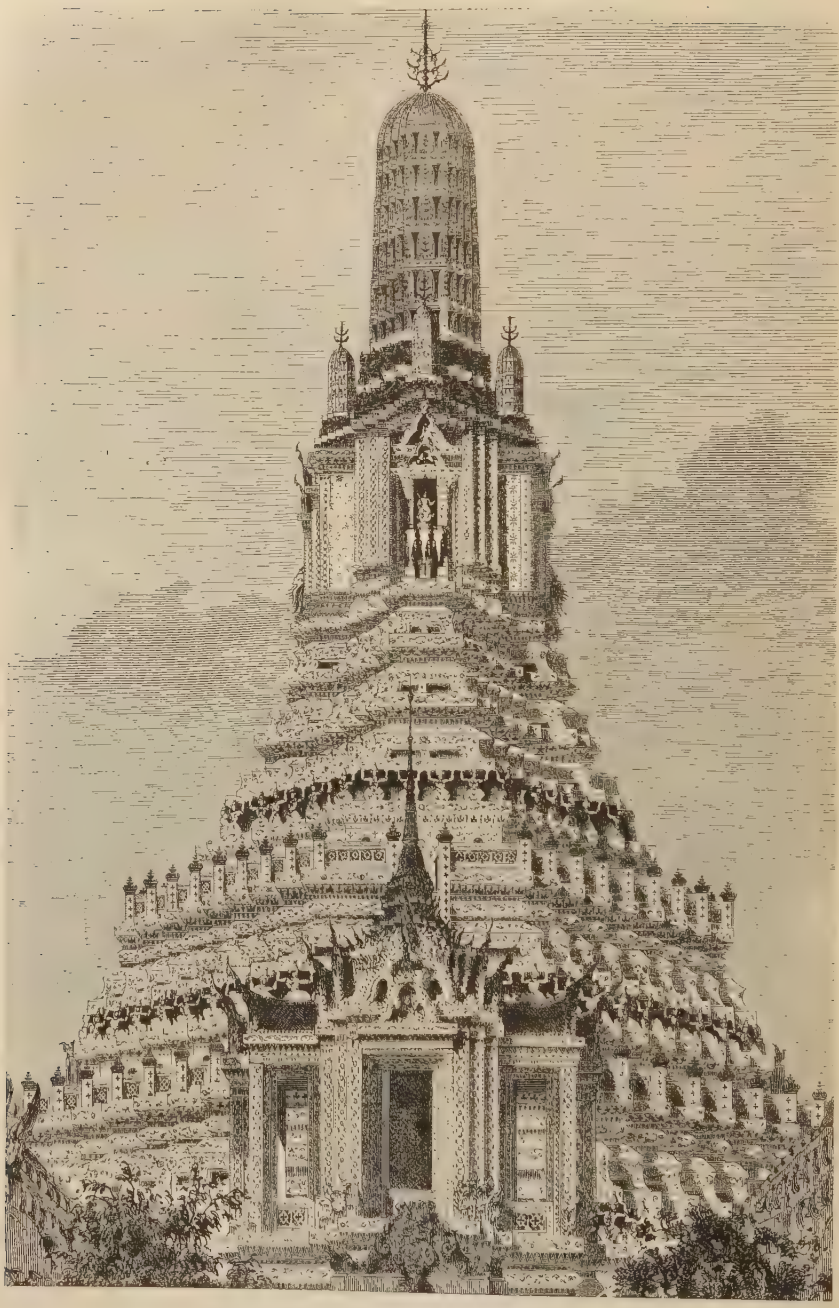
The form which the older pagodas took at Ayuthya differs in many essential respects from those which we find either in India or in Burmah. The top or upper part has a rounded domical shape, which we can easily fancy to be derived from the tope, but the upright part looks more like the sikra of a Hindu temple than anything Buddhist. If we had a few earlier examples perhaps we might trace the steps by which the one passed into the other; at present the gaps in the series are too great to be bridged over with anything approaching certainty. One link, however, seems to be supplied by the temples of Nakhon Wat in Cambodia, of which more hereafter.



1021. Ruins of a Pagoda at Ayuthya. From Mouhot.

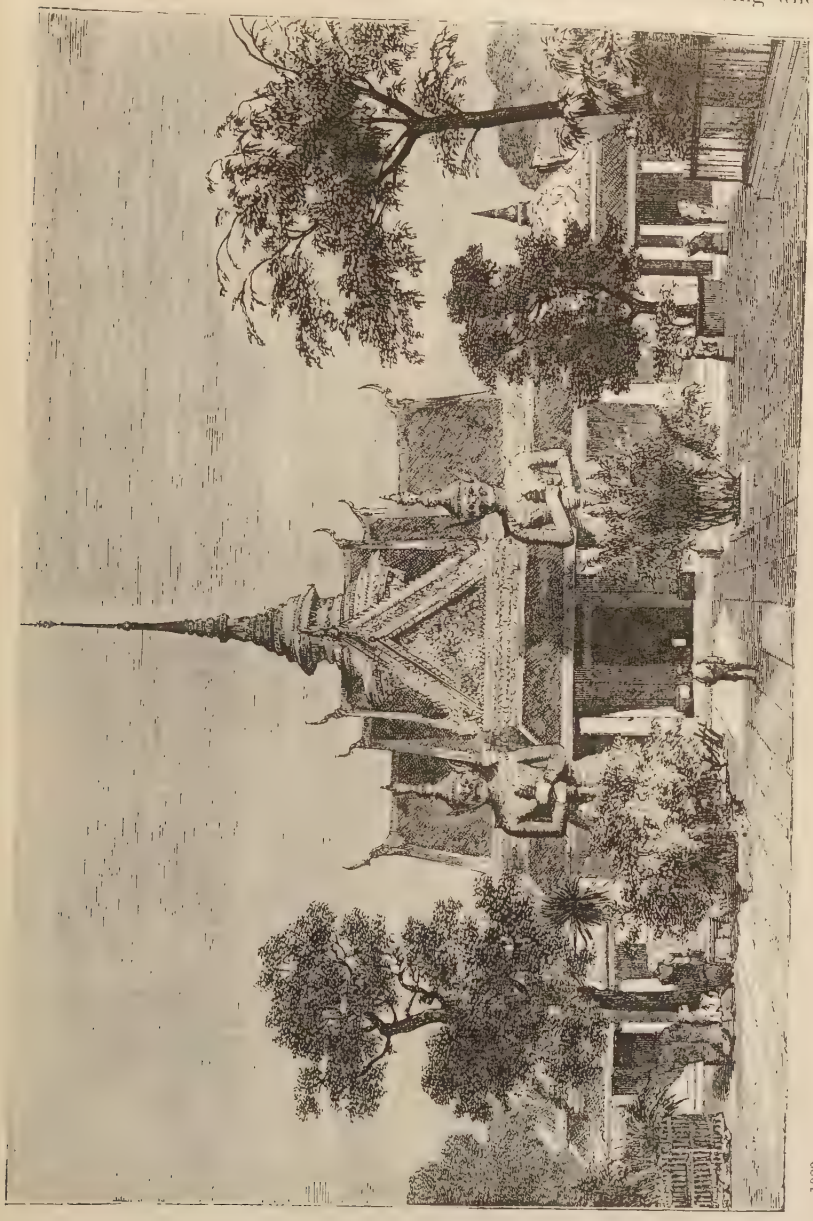
The same outline is found in the crowning members of the pagodas of Bangkok, but they are covered with an elaboration of detail and exuberance of coloured ornament that has seldom been surpassed, nor is it desirable it should be, for it is here carried to an extent truly barbarous.

Notwithstanding the bad taste which they display, these Bangkok pagodas are interesting in the history of architecture as exemplifying the instinctive mode in which some races build, and the innate and irrepressible love of architecture they display. But it also shows how easily these higher aspirations degenerate into something very like vulgarity, when exercised by a people in so low a stage of civilisation as the modern Siamese.



1022. The Great Tower of the Pagoda Wat-ching at Bangkok. From Mouhot.

The same remarks apply to their civic buildings: palaces and porticoes, and even dwelling-houses, are all as rich as carving and



Hall of Audience at Bangkok. From Mouhot

1023.

gilding, and painting, can make them; but, as in the pagodas, it is overdone, and fails to please, because it verges on vulgarity.

The typical design of all these halls and minor buildings will be understood from the annexed woodcut representing the Hall of Audience at Bangkok. Like all the others, it has two roofs intersecting one another at right angles, and a spire of greater or less elevation on the intersection. Sometimes one, two, or three smaller gables are placed in front of the first, each lower than the one behind it, so as to give a pyramidal effect to the whole. Generally the subordinate gables are of the same width as those in the centre; but sometimes the outer one is smaller, forming a porch. In the audience hall just quoted there are three gables each way. These may be seen on the right and left of the central spire in the view, but the first and second towards the front are hidden by the outer gable. The point of sight being taken exactly in front, it looks in the view as if there were only one in that direction.

The Burmese adopt the same arrangement in their civil buildings, and in Siam and Burmah the varieties are infinite from the simple pavilion with four gables, supported on four pillars,[1] to those with twelve and sixteen gables, combined with a greater complication of walls and pillars for their support.

As the Siamese are certainly advancing in civilisation, it may be asked, Will not their architecture be improved and purified by the process? The answer is unfortunately too easy. The new civilisation is not indigenous, but an importation. The progress-men wear hats, the ladies crinolines, and they build palaces with Corinthian porticoes and sash-windows. It is the sort of civilisation that is found in the Bazar in Calcutta, and is not desirable, in an architectural point of view, at all events, if indeed it is so in any other respect.

[1] This form is interesting to us, as it is that adopted for the Albert Memorial in Hyde Park, the style of decoration of which is also much more like that employed in Siam than anything yet attempted out of doors in Europe.

CHAPTER VII.

JAVA.

CONTENTS.

Buildings at Boro Buddor — Temples at Brambanam.

The island of Java is another of those countries which received their civilisation and their arts direct from the continent of India, but by a different route from that by which they passed into Ceylon and Burmah.

Neither in the island, nor on the continent of India, are any very distinct evidences found of the early colonisation of this country, but it seems most probable that it took place in the earlier centuries of the Christian era. At that time the west of India was in a state of continuous ferment in consequence of the struggle between the Brahmins and the Buddhists, the latter of whom seem to have gained the ascendancy under King Salivahana, who established the Saka era in the year 76 or 78 A.D., which is still used as the epochal date in Java, while these struggles are the earliest events to which the Javanese traditions refer.

We find no traces of the sovereigns of central India among the Javanese traditions, neither does Asoka mention the island as one of the countries to which he sent missionaries, nor does his name appear in any of the records collected by Sir Stamford Raffles or Mr. Crawfurd, who are almost our only authorities on the subject. On the contrary, the earlier heroes of the Mahabhárata are the traditional rulers of the land, and all their myths are derived from Hindu and not from Buddhist sources. It would hence seem that the first colonists could not have been Buddhists, but Hindus, and these almost certainly from Guzerat, or the west of India, who were driven to seek in the islands of the east the enjoyment of that religion from which they were debarred by the ascendancy of their rivals in their native land.

For some centuries after this date even the traditional annals are silent as to any important events, or the foundation of any great cities on the island, though we gather from them, and from the more certain

testimony of Fa Hian, who visited the island A.D. 413 in sailing from Ceylon, that the intercourse was frequent between the Brahminical possessors of both countries at that early period; and we have also his certain testimony that in those days there were no Buddhists in the country, though many Brahmins from India.[1]

The Hindu kingdom of Java seems never to have extended into the western part of the island. In the earliest times it was confined to the district of Matarem, near the centre, on the southern side. Here the two greatest and most ancient groups of ruins are situated, those of Brambanam and of Boro Buddor, or the Great Buddha.

We do not know yet when Buddhism was introduced; probably not till the followers of that sect were expelled from the continent of India in the 10th or 12th century of our era, when they in their turn took refuge from the persecution of the Brahmins, in that insular asylum which the Hindus had sought ten centuries earlier, to avoid their intolerance and bigotry.

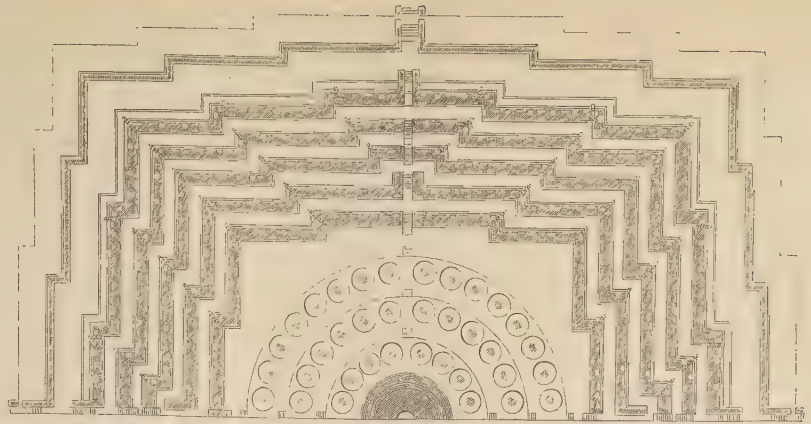
Certain it is that the most splendid temple of the Buddhists in Java, that of Boro Buddor, is assigned, both by tradition and by the evidence of its style, to the 14th century (1338?) and is indeed the only building of a decidedly Buddhist character to be found on the island.

Boro Buddor.

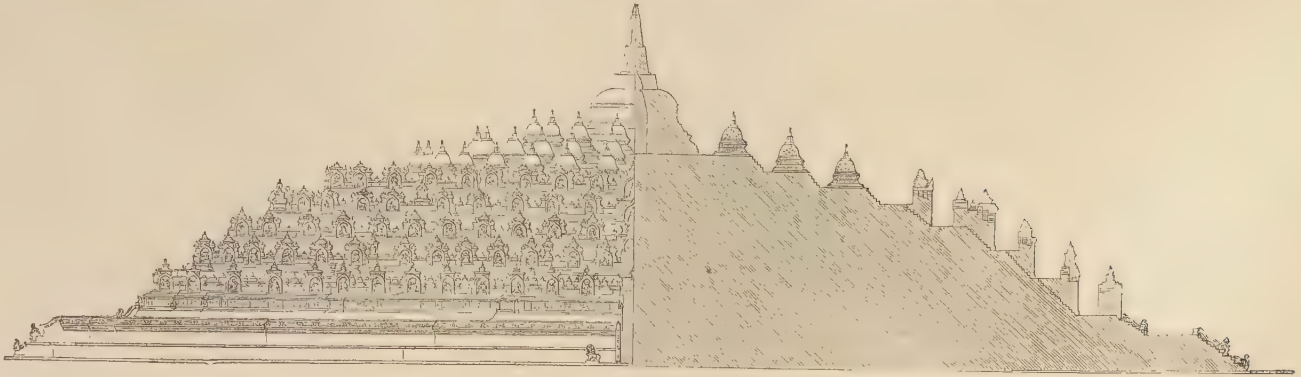
This great temple forms, if not the purest or most graceful, certainly the most curious and elaborate monument of the style found in this or any other country. Its plan and arrangements will be best understood from the woodcuts, No. 1024, representing half the plan of the monument (the other half being exactly similar has been omitted) and No. 1025, being a section through one half, and an elevation of the other half, slightly reduced from the usual scale of 50 ft. to one inch; and Nos. 1026 and 1027, a section of one of the small domes in the centre, and an elevation of the great one.

From these it will be seen that it is a nine-storeyed pyramid of a square form, measuring about 400 ft. across. The five lower storeys consist of narrow terraces running round the building, rising on an average about 8 ft. the one above the other. On their outer edge is a range of buildings of the most various and fantastic outline, roofed with small spires and cupolas of differing forms, the principal ones covering 436 niches, occupied by as many statues of Buddha, life-sized, seated in the usual cross-legged attitude. Between each of these are one or two bas-reliefs representing the god in the same attitude, besides architectural ornaments and carvings of all sorts. Below

[1] 'Foe Koue Ki,' p. 360.



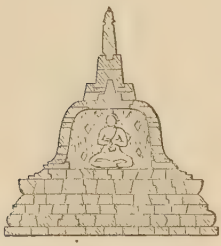
1024. Half-plan of Temple of Boro Buddor. From a Plate in the second edition of Sir Stamford Raffles' 'History of Java.' Scale 100 ft. to 1 in.



1025. Elevation and Section of Temple of Boro Buddor. From an unpublished Plate intended for Sir Stamford Raffles' 'History of Java.'

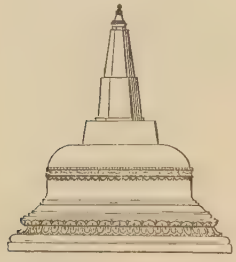
these, on the lower storey, is a bas-relief in numberless compartments running round the whole building, and consequently 1600 ft. long, representing scenes from the life of Buddha, and religious subjects. These are all on the outside, but the inner faces of the five ranges of buildings are even more profusely and more minutely ornamented with bassi-relievi, and seated figures, and architectural ornaments carried to an extent unrivalled, so far as I know, by any other building in any part of the world.

Above and within the upper square terrace are three circular ones, the outer ornamented with thirty-two, the next with twenty-four, and the upper with sixteen small domes, each containing (as shown in woodcut No. 1026) a seated statue of Buddha, which can be seen through the open work of the roof. The whole is surmounted by what must be considered as the pagoda itself (woodcut No. 1027), which is now empty, its centre being occupied only by a sunken chamber 10 ft. deep, meant originally no doubt to contain the relic for which this splendid temple was erected.



1026. Section of one of the smaller Domes at Boro Buddor.

On looking at this gorgeous edifice the first thing that strikes the beholder is the singular arrangement of its five lower terraces. I have myself no doubt whatever that they are copied from the terraces of such a monastery as the Maha Lowa Paya already described;[1] that in the originals these niches, occupied by the cross-legged figures, were the entrances to cells, whose walls were painted, perhaps sculptured, as these are. In India, as we shall presently see, the Jains, who were the successors of the Buddhists, carried this practice to a considerable extent. They continued to surround their court-yards with cells, but lodged a cross-legged divinity in each instead of a shaven priest.



1027. Elevation of principal Dome at Boro Buddor. From Sir S. Raffles' 'History of Java.'

Indeed, the whole of the arrangements of the lower storeys of this building seem to be intelligible only on the supposition of its being built on the model of some monastery, extended beyond anything we know of that class, and altered so as to be a mere copy of the abodes of priests instead of their actual residence.

The arrangement of the upper storey will be easily understood by referring to the description of the Shoëmadoo at Pegue.[2] The arrange-

[1] P. 509. [2] P. 521.

ment is the same, except that there are three ranges of smaller temples surrounding the larger one instead of two. We here observe an analogy to the three ranges of pillars which surround the base of the Thupa Ramaya and other topes at Ceylon.

The building is therefore not only a compound of a monastery with a tope, such as probably existed in India, but it is so modern, and so far removed from the early types, that almost all the parts have lost their original signification, and have been consecrated to other purposes, while retaining the ancient forms—a transformation common enough in the history of architecture, but seldom more distinctly shown than in this instance.

It would be singularly interesting if we could find some similar example in India, for in Java unfortunately a certain Malay element has been superinduced, which prevents our recognising at once all the parts, and it does not consequently furnish us with that amount of historic deduction which a purer example would afford. We cannot, however, doubt that it is really Buddhist, or at least a transition specimen, unlike anything else we are acquainted with in its details, and unsurpassed, so far as I know, by any Buddhist temple, in the amount of sculptured decoration that is lavished on every part of it.

Brambanam.

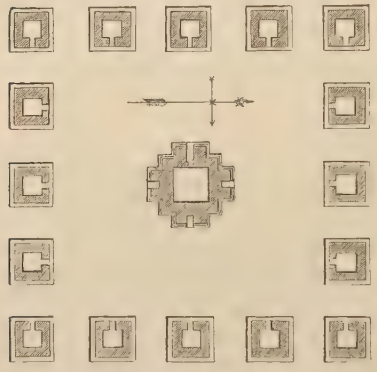
Not far from the ruins of Boro Buddor are situated the temples of Brambanam, certainly one of the most extraordinary groups of buildings of its class, and very unlike anything we now find in India, though there can scarcely be a doubt but that the whole is derived from an Indian original now lost.

The great temple is square in plan, above 45 ft. on a side, and 75 ft. high, terminating upwards in an octagonal straight-lined pyramid. On each face of this is a smaller temple of similar design joined to the great one by corridors; the whole five thus constituting a cruciform building. It is raised upon a richly ornamented square base. One of the smaller temples serves as an entrance-porch. The building itself is very curiously and richly ornamented with sculpture, but the most remarkable feature of the whole group is the multitude of smaller temples which surround the central one, 238 in number. Immediately beyond the square terrace which supports the central temple stand twenty-eight of these—a square of eight on each side, counting the angular ones both ways. Beyond these, at a distance of 35 ft., is the second square, forty-four in number; between this and the next row is a wide space of above 80 ft., in which there are only six temples, two in the centre of the north and south faces, and one on each of the others. The two outer rows of temples are situated close to one another, back to back, and are 160 in number, and form a

square, each face of which is about 525 ft. All these 238 temples are similar to one another, about 12 ft. square at the base, and 22 ft. high,[1] all richly carved and ornamented, and in every one is a small square cell, in which was originally placed a cross-legged figure, probably of one of the Jaina saints, though the drawings which have been hitherto published do not enable us to determine whom they represent—the draughtsmen not being aware of the distinction between Buddhist and Jaina images.

No such multiplication of images or little temples is found anywhere in any real Buddhist locality; but this repetition of the same objects is one of the most marked peculiarities of Jaina architecture; and the mixture of Hindu mythology externally with cross-legged divinities in the interior is what is found everywhere in Guzerat, and in all those places where temples in honour of the Tirthankars, or Jaina saints, are found.

The arrangement of this great group will be better understood from the woodcut No. 1028, being the plan of a smaller one in the immediate neighbourhood, surrounded by only sixteen subsidiary temples instead of 238, and the central one having only one cell instead of five. In other respects the arrangement is the same, and it is preferable for the purpose of illustration, as it immediately reminds us of the arrangement of the cells that surround the Buddhist cave-viharas at Ajunta[2] and elsewhere, already described; and it seems hardly doubtful that this was the arrangement of the cells of the priesthood in the original buildings in India, which, when copied in the rock, took the form we now find. It is true these cells, instead of being occupied by hermits, are either empty or have a statue in them, but, as will presently be shown, this was usual in India with the Jains, to whose religion the temples at Brambanam probably belong.



1028. Small Temple at Brambanam. From a Drawing at the India Office. No scale.

The date given to these monuments by Crawfurd is 1266 to 1296, at which time the Jains were making great progress at Guzerat and the western parts of India; and if the traditions are to be relied upon,

[1] The information here given is taken from Sir Stamford Raffles' 'History of Java,' second edition, vol. ii. p. 17 *et seq.* His plans, however, do not quite agree with the measurements in the text, a mistake arising, I believe, from the scales in the original drawings—now before me—being in Rheinland roods, which are not always converted into English feet.

[2] See p. 496.

which bring the Hindu colonists of Java from that quarter, it is almost certain that they would have brought that religion with them.

The only recent addition we have had to our knowledge of Javanese architecture is contained in a paper communicated by Colonel Yule to the Asiatic Society of Bengal, 1861–2. He was the first to describe the Temple at Mundot, about two miles from Boro Buddor, which has very recently been dug out of the volcanic ashes in which it was buried. It is, unfortunately, much ruined, but presents so striking a resemblance to the square temples at Pagan that we can hardly doubt their common origin. Colonel Yule was equally struck with many points of resemblance between the temples at Brambanam, and those he was familiar with in Burmah; the most remarkable difference being the amount of Hindu sculpture which adorned the exterior of the Javanese temples, even when the interior was purely Buddhist. This probably arose from the earlier immigrants being followers of the Brahminical faith—the Buddhist being a later importation—and the consequent necessity of conciliating the earlier occupants.

One curious circumstance strongly indicative of Hinduism is the entire absence of constructive arches in Javanese buildings; the roofs of even the largest interiors are formed of cornices, bracketting one beyond the other till the opening can be covered by a single slab, and all the doorways and openings are formed in a similar manner. In Burmah, on the contrary, the true arch—generally of pointed form—is everywhere employed. This may partly be owing to the fact of brick being the material usually employed in Burmah, and stone in Java; but that will not entirely account for the difference, as the Hindus cover very large spaces with brick corbels, and the Buddhists seem to have had nowhere any prejudice against arches.

Another peculiarity of these buildings is the entire absence of the use of mortar, though this is a characteristic also of the old brick architecture of Burmah, and of some old buildings in India. In a country so subject to earthquakes as Java it has been most unfortunate, as almost all are more or less ruined in consequence. It also admits of the easy deposit of seeds of plants and trees, which, in such a climate, are almost more destructive than volcanoes or earthquakes. The consequence of all this is, that it is nearly impossible, in any instance, to feel certain what the external form of any of these temples originally was. All the spires and crowning members—from which we should be best able to judge of their affinities or similarities with other styles—are gone. Those restorations which have been attempted are certainly erroneous; and, till more carefully and scientifically examined, no confident opinion can be expressed. My impression is, that the Javanese did not borrow anything direct from the Burmese, but that the style of both countries was derived from a common source, not—so far as we can at present see—from the Valley of the Ganges,

or from Southern India, but most probably from Guzerat or the west coast of India; perhaps, however, we must look for the common origin of all these styles still further west than even that, remote though it may at first sight appear.

All this will be better understood after describing the Jaina and Hindu styles of Western India. But, meanwhile, it is much to be desired that the investigation should be more fully carried out—a complete account of the remains of ancient buildings of Java would add a most interesting chapter to our History of Architecture, and throw light on a great many problems now very obscure. It is said that such a work is in preparation in Holland, but nothing is known in this country regarding it. One point that makes it more than usually interesting to the Indian antiquary is, that on the Continent the Buddhist style is the oldest, and the Hindu always succeeded, even where it did not grow out of the simpler style. In the island, the Hindu preceded the Buddhist. The quasi-Brahminical Brambanam is older than the more purely Buddhistical Boro Buddor; and, as a rule, the older a building is, the more tendency does it show towards the less pure faith. Such an unexpected inversion gives rise to combinations as curious as they are instructive.

CHAPTER VIII.

THIBET AND NEPAL.

CONTENTS.

Monastery of Bouddha La — Temples in Nepal.

It would be a matter of the deepest interest if we were able to compile a satisfactory account of the Buddhist style in Thibet, for it is there that Buddhism exists in its greatest purity at the present moment, and there only is it entirely and essentially a part of the system of the people. We would gladly, therefore, compare the existing state of things in Thibet with our accounts of India in the days of the supremacy of the same religion. The jealousy of the Chinese, however, who are now supreme over that nation of priests, prevents free access to the country, and those who have penetrated beyond its forbidden barriers have either done so in the disguise of mendicants, and, consequently, dared neither to draw nor examine minutely what they saw, or else had little taste for portraying what was unintelligible, and, consequently, of very little interest to them.[1]

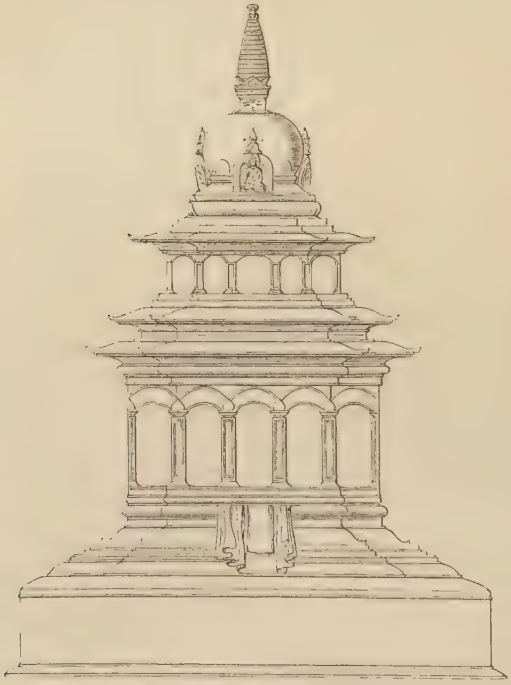
So far as can be made out from such narratives as we have, there does not seem to be in Thibet a single relic-shrine remarkable either for sanctity or size, nor does relic-worship seem to be the object of either the architecture or the religious worship. But as no country in the world possesses a larger body of priests in proportion to its population, and as all these are vowed to celibacy and live together, their monasteries are more extensive than any we know of elsewhere—some containing 2000 or 3000 lamas, some, if we may trust M. Huc, as many as 15,000.[2] The monasteries do not seem to be built with any regularity, or to be grouped into combinations of any architectural pretension, but to consist of long streets of cells, mostly surrounding small court-yards, three or four on each side, and sometimes two or even three storeys high; generally, perhaps always, with a small

[1] Capt. Turner, it is true, who was sent to Teeshoo Lomboo by Warren Hastings, has published with his interesting narrative a number of very faithful views of what he saw, but they are not selected from that class of monuments which is the subject of our present inquiry.

[2] 'Voyage dans le Thibet,' vol. ii. p. 289. The monastery referred to is that of Séra, in the neighbourhood of Lassa, the capital.

shrine or altar in the centre. The monastery of Bouddha La, outside the city of Lassa, where the Delai Lama resides, seems to be of more magnificence than all the rest—the centre being occupied by a building four storeys high, crowned by a dome (making the fifth) covered entirely with sheets of gold (rather, perhaps, merely gilt), and surrounded by a peristyle of columns, which are gilt also. Around this central palace are grouped a number of smaller ones, where the inferior members of this great ecclesiastical order reside; but of all this it is difficult to form a distinct idea without some better drawings than the native ones, which are at present alone available.

The Delai Lama, who resides in this palace, is believed by the Thibetans to be the living incarnation of the Deity, and, in consequence, is the principal, if not the only, object of worship in Lassa. There are, however, four or five subordinate incarnations in different parts of Thibet and Mongolia, who, though inferior to this one, are still objects of worship in the places where they reside, and by particular sects of Buddhists.



1029. Nepalese Kosthakar. No scale.

It is this worship of a living rather than of a dead deity that seems to be the principal cause of the difference of the architectural forms of India and Thibet. In the countries we have hitherto been describing no actual incarnation of the Deity is believed to have taken place since the death of Sakya Muni, though the spirit of God has descended on many saints and holy men; in India, therefore, they have been content to worship images of the departed deity, or relics which recal His presence. In Thibet, where their deity is still present among them, continually transmigrating, but never dying, of course such a form of worship would be absurd; no relic of a still living god can exist, nor is the semblance or the memory of any past manifestation thought worth preserving. *A priori*, therefore, we should scarcely look here

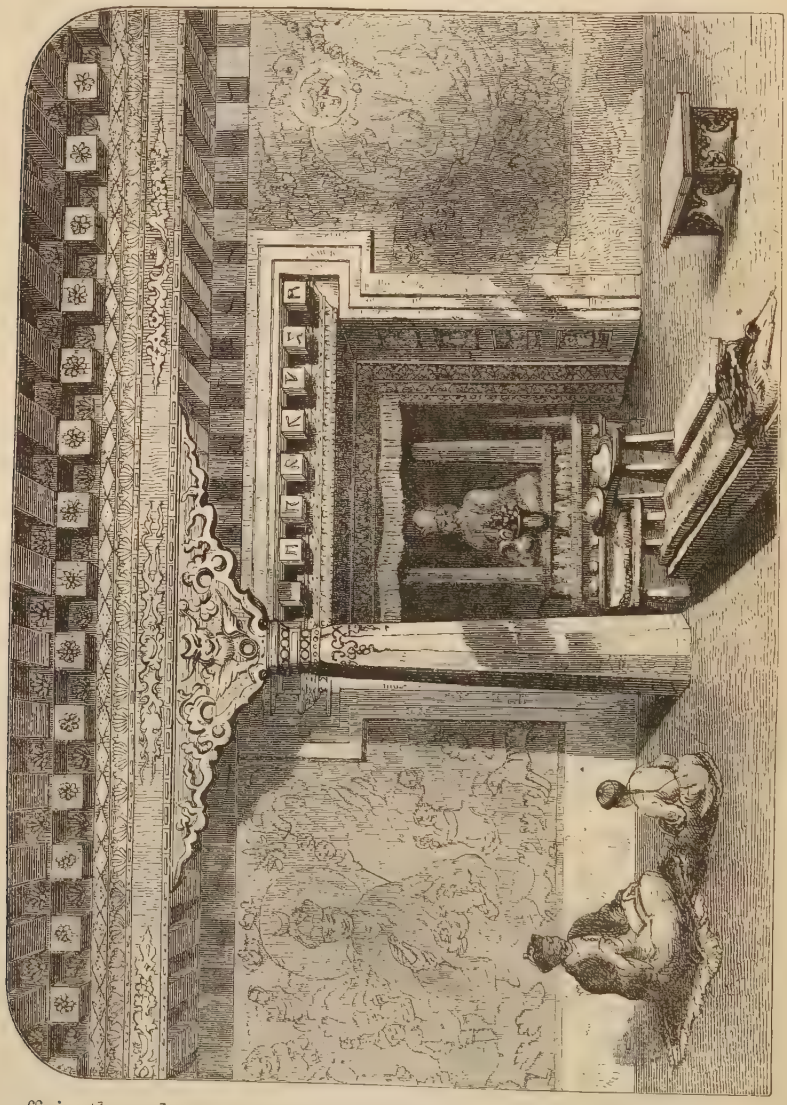
for the same class of sacred edifices as we find in India or Ceylon. Some smaller relic shrines, however, do exist, at least in Nepal, scarcely differing in any essential point from those in India; and we have no representations or measurements of those which have been described. One class of temple is found in Nepal which deserves mention; it is called *Kosthakar*,[1] and consists of a square base, containing a cell intended to be occupied by a statue like those at Brambanam in Java, and crowned by what seems to be a copy of a tope with its terminal. One such is represented in woodcut No. 1029, not so much on account of any merit of its own, but as explaining a form of Hindu architecture afterwards common, and also as throwing light on some of the buildings just described. When speaking of Hindu architecture, we shall understand the full significance of the change.

1030. Doorway of the Temple at Tassiding. From Dr. Hooker's 'Himalayan Journals.'

As a general rule, the temples of the Himalayan valleys are constructed either wholly, or in great part, in wood; the Deodar, and other timber-trees of the mountains, affording an excellent—and, in that climate, durable—material for the purpose. In consequence of this, they are generally adorned with deep over-hanging roofs, the eaves of which are supported by brackets, and the whole exhibiting a variety of outline and richness of carving extremely picturesque, though not always in the best or purest taste. They are sometimes interesting as explaining the origin of some forms occasionally

[1] See Trans. Royal As. Soc., vol. ii. p. 5; and Trans. A. S. B, vol. xvi. p. 442.

met with in the stone architecture of the plains, and altogether a monograph of the style would be a valuable contribution to our knowledge; but such works hardly come within the class of monuments, and their direct bearing on the styles treated of in this volume is not



Porch of Temple at Penlongchi. From Hooker.

1031.

sufficiently made out to justify our devoting much space to them. In the meanwhile, the view (woodcut No. 1030) of the doorway of the temple at Tassiding is curious as showing a perseverance in the employment of sloping jambs, which we do not meet with in the plains. It will be

recollected that this feature is nearly universal in the Behar caves (woodcut No. 986), but there we lose it. It may have continued to be commonly employed during the middle ages, though the examples have perished; but it is curious to find it cropping up here again after a lapse of 2000 years.

Another view in the porch of the temple at Pemiongchi is also interesting, as showing the form of roof which we are familiar with in the rock examples, and also as illustrating the extent to which the bracket capital of India may be carried under the influence of wooden architecture. It hardly seems doubtful that the form was originally derived from wooden construction, but was equally appropriate to masonic forms, and is used in masonry so judiciously by Indian architects, that we lose sight of its origin in most instances altogether.

There can be little doubt that many other and more interesting illustrations of the architecture of the plains might be found fossilized in the secluded valleys of the Himalayas; but it would require these mountain fastnesses to be explored by some one thoroughly familiar with the subject before they can be rendered available: up to this time, their value, for this purpose, has not even been suspected.

In the preceding pages all the principal examples of the Buddhist style of architecture which are at present known to us have been noticed, and the style traced, as far as possible, from its origin to the present day. The examples at the time of its greatest brilliancy are too few and too imperfect to enable us to pass a distinct judgment on its merits as a style of art; but, even if criticised according to the most rigid rules, it will not be found deficient in beauties, though these are of an order peculiarly its own. The great halls, when perfect, must have possessed all the beauties of the choirs of Christian basilicas, which they so much resemble, and besides had the merit of a far more perfect mode of lighting, by the one great opening over the entrance, placed exactly where it should be, instead of a number of small windows scattered over the building wherever the constructive necessities of the design would admit of their being inserted.

The great domical topes also, 200 or 300 ft. in diameter, when perfect and enriched with all the ornaments we know they possessed, doubtless displayed that beauty of outline which we admire so much in the Pantheon and some of our modern churches. Their imposing size and general effect may be judged of from observing that the external diameter of the great topes at Anuradhapoora was 360 ft., while that of St. Peter's at Rome is only half as great.

Of the monasteries and residences of the kings and people in India we have even less means of judging, but it is not easy to speak too highly of some of the details, and of the general effect of the archi-

tectural arrangements. They are bold and elegant, and singularly well adapted to the purpose for which they were designed.

In Burmah, however, and Siam, we have a living Buddhist style—rich, gorgeous, and ambitious, and which, with its gilding and decorations, probably nearly reproduces the effect of what we see in the frescoes and carved representations of the older buildings. The modern style, however, wants the grandeur of outline, and the beauty of detail, which characterised the older; but, from the two, we may form a fair conception of the style in the days of its greatness.

Whatever doubt there may be of the merit of Buddhist monuments as works of art, there can be none of their great historical value; for of the styles still practised it is the oldest, having been constantly in use for more than 2000 years; and it is the style of a religion which even at the present hour, when its greatest glory has passed away, still reckons among its votaries, if not a greater, at least as great a number of followers as any religion now existing on the face of the globe.

It may also be added, that it is the religion which, in ancient times, had more affinities and more ramifications among the primitive races of mankind than any other we know of. It is, further, the religion of the Turanians, a race who, in their pure state, never were addicted to alphabetical writing, and who, consequently, have neither literature nor history, properly so called. It is, consequently, only through their architecture that we can hope to gather together the lost threads of their long-forgotten story, and to replace them in their proper position among the nations of the earth.

BOOK IV.

HINDU ARCHITECTURE.

CHAPTER I.

INTRODUCTORY.

In describing the various forms of Buddhist architecture enumerated in the last division of this history, it was necessary to travel beyond the limits of India proper, not only into Afghanistan and Ceylon, but to the Indo-Chinese provinces and Java; and this without even then exhausting the subject. All the examples of the four styles which are treated of in the present Book are, on the contrary, strictly confined to India proper as its geographical limits are generally understood. They are all within the boundaries of the Himalaya and the sea, north and south, and between the Indus and the Brahmapootra east and west. The Buddhist architecture was influenced by foreign styles at its birth, it had affinities with other nations during its progress, and its influence on the art of the surrounding peoples is easily traced. With the Hindu styles the case is entirely different. They are all, so far as we know, perfectly indigenous. We cannot trace the influence of any foreign style on their origin, or any connexion with anything outside India during their progress. It is by no means impossible that, with more extended knowledge, affinities may be detected which we do not now suspect; but even these must be remote, or we should surely now be able to pick up some of the threads of the story.

Owing to the fact of the Buddhists having been so long ago expelled from the country where their religion first assumed a consistent shape, their architecture has become a dead one in India, as much as the old Grecian art is in the Greece of modern times, and represents nothing now living in India. The Hindu styles, on the contrary, do reproduce the modern thought and aspiration of the inhabitants of that country as it has existed during the last ten or twelve centuries, and as it still exists. They are the living exponents of the religions of the people of India, and tell, more clearly than anything else can tell, what degree of elevation or what depth of debasement now prevails.

On the whole, the story that her arts reveal to us is a sufficiently sad one. It is a history written in decay. Each building, as we ascend the stream of time, is more perfect than the one that followed, so that, with scarcely an exception, it is a sufficient test of the relative age of two buildings to say that the one is more perfect than the other; and this continues till we lose sight of the style in the mist of the early ages, just when we feel we are on the point of grasping something so perfect that it may stand comparison with the proudest monuments of European art. It may, however, be otherwise. It may be that the 8th or 10th century was the culminating point of the art of the Hindus—that if we could trace it further back we should only encounter the feeble attempts of a rude people trying after something better than that to which they had yet attained, and our knowledge of the history of Buddhist art lends considerable colour to this view. Be this as it may, from the 10th to the 13th century were the great building ages in India as in Europe, with this difference, that the older was the better age in the East. In the West progress was steady till the 14th century opened. From that time, in India each succeeding century brought increasing feebleness in design, less purity in detail, and sometimes also inappropriateness of form. Within the present century there has been something like a revival, but it is almost in vain to hope that it can resist the numerous influences tending to discourage any progress in the right direction. May it be otherwise!

Of the four classes into which it is proposed to divide the styles of the Hindus, the Dravidian is the most extensive. There are perhaps more cubic feet of masonry in buildings of this style than of all the other styles of India put together. It is also the most persistent. It sometimes requires considerable knowledge and a keen eye, to discriminate between what is ancient and what is comparatively modern, though in ordinary cases it is easy enough to do so.

If we except Orissa, the monuments of the Northern or Bengalee style are very few and small, and most of them modern; so that, on the whole, it is less interesting than the Southern.

The Chalukyans were at one time Jains, and the Jains were so essentially mixed up with the Chalukyans that the style of their architecture in its earliest ages may almost be said to be identical, though the forms of their temples were different, and they gradually diverged more and more from each other. They are however, throughout the richest and most elegant forms of Hindu art, and those which will best stand a comparison with European examples.

All this it may be impossible to make clear in our very limited space; but when grasped it affords a wonderfully vivid picture of the Hindu mind during the last ten or twelve centuries, and such as probably cannot be attained from other sources.

CHAPTER II.

ARCHES AND DOMES.

CONTENTS.

Horizontal Arches — Various modes of roofing Indian Domes.

Before proceeding to describe the arrangements of Hindu and Jaina temples, it may add to the clearness of what follows if we first explain the peculiar modes of constructing arches and domes which they invariably employed.

As remarked above, we do not know whether or not the Buddhists ever employed a true arch; but this at least is certain, that no structural example has yet been found in India, and that all the arched or circular forms found in the caves are, without one single exception, copies of wooden forms, and nowhere even simulate stone construction. With the Hindus and Jains the case is different: they use stone arches and stone domes which are not copied from wooden forms

1032. View of City Gateway, Beejanuggur. From a Photograph

at all; but these are invariably horizontal arches, never formed or intended to be formed with radiating voussoirs.

It has already been explained, in speaking of Pelasgic art,[1] how prevalent these forms were in ancient Greece and Asia Minor, and how long they continued to be employed even after the principles of the true arch were perfectly understood. In India, however, the adherence to this form of construction is even more remarkable. As the Hindus quaintly express it, "an arch never sleeps;" and it is true that a radiating arch does contain in itself a *vis viva* which is always tending to thrust its haunches outwards, and goes far to ensure the ultimate destruction of every building where it is employed: while the horizontal forms employed by the Hindus are in stable equilibrium, and, without violence, might remain so for ever.

1033. Gateway, Jinjoowarra. From Kinloch Forbes' 'Ras Mala.'

There can be no doubt that the Hindus carried their horror of an arch to an excess which frequently led them to worse faults on the other side. In city walls, for instance, where there is a superabundant abutment on either hand to counteract any thrust, the horizontal principle is entirely misplaced. If we take, for instance, one of the city gates at Beejanuggur (woodcut No. 1032), we cannot help perceiving that with much smaller stones and less trouble a far more stable construction could have been obtained, so long as the wall on either hand remained entire. What the Hindu feared was that if the wall were shattered, as we now find it, the arch would have fallen, though the horizontal layers still remain in their places.

Instead of a continuous bracket like that shewn in the last example, a more usual form, in modern times at least, is that of several detached brackets placed a little distance apart the one from the other. When used in moderation this is the more pleasing form of the two, and in

[1] Vol. i. p. 212 *et seq.*

southern India it is generally used with great success. In the north they are liable to exaggerate it, as in the gateway from Jinjoowarra in Guzerat (woodcut No. 1033), when it becomes unpleasing, though singularly characteristic of the style.

It is this horizontal or bracket mode of construction that is the formative principle of the Dravidian or Southern style of Hindu architecture, every form and every ornament depending almost wholly upon it. In the north, however, another development of the same principle is found in the horizontal dome, which is unknown in the south, but which has given a new character to the style, and, as one of its most beautiful features, demands a somewhat detailed explanation.

Domes.

It is to be regretted that, while so much has been written on the history of the pointed arch, so little should have been said regarding the history of domes: the one being a mere constructive peculiarity that might very well have been dispensed with; the other being the noblest feature in the styles in which it prevails, and perhaps the most important acquisition with which science has enriched the art of architecture.

The so-called Treasuries of Mycenæ and Orchomenos, as well as the chambers in Etruscan tombs, prove that as early as ten or twelve centuries before Christ the Pelasgic races had learned the art of roofing circular chambers with stone vaults, not constructed, as we construct them, with radiating vaults, on the principle of the common arch, but by successive layers of stones converging to a point, and closed by one large stone at the apex.

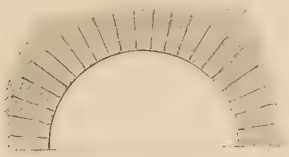
Whoever invented the true or radiating arch, the Romans were the first who applied it as a regular and essential architectural feature, and who at the same time introduced its complement, the radiating dome, into architectural construction; at what period it is not now known. The earliest example, the Pantheon, is also the finest and largest; but we have lost entirely the innumerable steps by which the architects must have slowly progressed to so daring an experiment.

There is, however, a vast difference between these two classes of domes, which it is necessary to bear in mind in order to understand what follows.

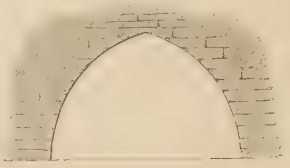
The Roman arch and Roman dome are always constructed (woodcut 1034) on the principle of voussoirs, or truncated wedges, radiating from a centre. This enabled the Romans to cover much larger spaces with their domes than perhaps was possible on the horizontal principle; but it involved the inconvenience of great lateral thrusts, continually tending to split the dome and tear the building in pieces, and requiring

immense and massive abutments to counteract their destructive energy.

The Indian or horizontal dome never can be made circular in section, except when used on the smallest scale, but almost always takes a form more or less pointed (woodcut No. 1035). From the time



1034. Radiating Arch.



1035. Horizontal Arch.

of the building of the Treasury of Mycenæ[1] to the birth of Christ we have a tolerably complete series of arches and vaults constructed on this principle, but few domes properly so called. After the Christian era the first example is found in a singular tomb at Mylassa,[2] near Halicarnassus,[3] where the dome exhibits all the peculiarities of construction found in the Jaina temples of India. After this we lose the thread of its history till the form reappears in porches like those of the 11th century on Mount Abu, where it is a perfectly established architectural feature, that must have been practised long before it could be used as we find it in that building. Whether we shall ever be able to recover the lost links in this chain is more than doubtful, but it would be deeply interesting to the history of art if it could be done. In the mean time, there is no difficulty in explaining the constructive steps by which the object is now attained in India. These may also throw some light on the history of the invention, though this is not, of course, capable of direct proof.

The simplest mode of roofing a small square space supported by four pillars is merely to run an architrave or stone beam from each pillar, and cover the intermediate opening by a plain stone slab. Unless, however, slabs of great dimensions are available, this mode of construction has a limit very soon arrived at. The next step therefore is to reduce the extent of the central space to be covered by cutting off its corners; this is done by triangular stones placed in each angle of the square, as in woodcut 1036, thus employing five stones instead of one. By this means, the size of the central stone remaining the same, the side of the square space roofed is increased in the ratio of ten to seven, the actual area being doubled. The next step in the process

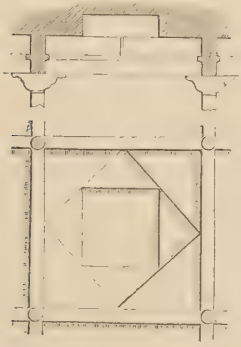
1036. Diagram of Roofing.

[1] Vol. i. p. 213.

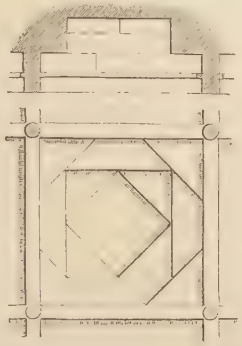
[2] Vol. i. p. 334.

[3] Fully illustrated in vol. ii. of the Dilettanti Society's 'Antiquities of Ionia.'

(woodcut 1037) is by employing three tiers and nine stones instead of two tiers and five stones, which quadruples the area roofed. Thus, if the central stone is 4 ft., by the second process the space roofed will be about 5 ft. 8 in.; by the third 8 ft. square; by a fourth process (woodcut 1038)—with four tiers and thirteen stones—the extent roofed



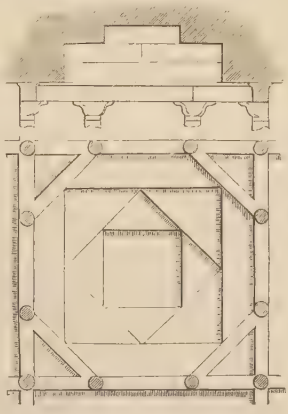
1037.



1038.

Diagrams of Roofing.

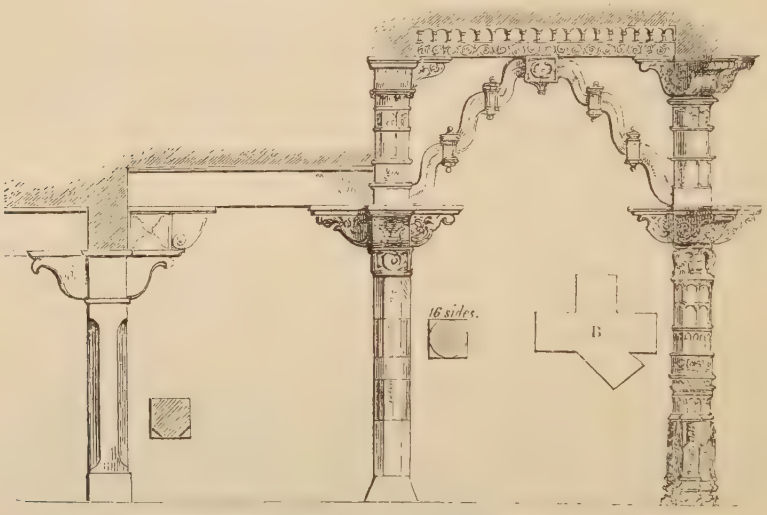
may be 9 or 10 ft., always assuming the central stone to remain 4 ft. square. All these forms are still currently used in India, but with four pillars the process is seldom carried further than this; with another tier, however, and eight pillars (as shown in woodcut 1039), it may be carried a step further—exactly the extent to which it is carried in the tomb at Mylassa above referred to. In this, however, as in all instances of octagonal domes in this style, instead of the octagonal form being left as such, there are always four external pillars at the angles, so that the square shape is retained, with twelve pillars, of which the eight internal pillars may be taken as mere insertions to support the long architrave between the four angular pillars.



1039. Diagram of Roofing.

It is evident that here again we come to a limit beyond which we cannot progress without using large and long stones. This was sometimes met by cutting off the angles of the octagon, and making the lower course of sixteen sides. When this has been done an awkwardness arises in getting back to the square form. This was escaped from in all the instances I am acquainted with, by adopting circular courses for all above that with sixteen sides. In many instances the lower course with sixteen sides is altogether omitted, and the circles placed immediately on the octagon, as in the temple

at Vimala Sah (woodcut No. 1084, p. 624). It is difficult to say how far this system might be carried constructively without danger of weakness. The Indian domes seldom exceed 30 ft. in diameter, but this may have arisen more from the difficulty of getting architraves above 12 or 13 ft. in length to support the sides, than from any inability to construct domes of larger diameter in themselves. This last difficulty was to some extent got over by a system of bracketing, by which more than half the bearing of the architrave was thrown on the capital of the column, as shown in woodcut 1040. Of course this method might have been carried to any extent, so that a very short architrave would suffice for a large dome; but whether this could be done with elegance is another matter. The Indians seem to have thought not; at least so far as I



1040. Diagram of Indian construction.
B. Form of bracket capital in the angle of an octagonal dome.

know, they never carried it to any extent. Instead of bracketing, however, they sometimes used struts, as shown in woodcut No. 1040, but it is questionable whether that could ever be made a really serviceable constructive expedient in stone architecture.

The great advantage to be derived from the mode of constructing domes just described was the power it gave of placing them on pillars without having anything to fear from the lateral thrust of the vault. The Romans never even attempted this, but always, so to speak, brought their vaults down to the ground, or at least could only erect them on great cylinders, which confined the space on every side. The Byzantine architects, as we have seen, cut away a great deal of the substructure, but nevertheless could never get rid of the great heavy piers they were forced to employ to support their domes, and in all

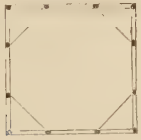
ages were forced to use either heavy abutments externally, or to crowd their interiors with masses of masonry, so as in a great measure to sacrifice either the external effect or internal convenience of their buildings to the constructive exigences of the domes. This in India never was the case; all the pressure was vertical, and to insure stability it only required sufficient strength in the support to bear the downward pressure of the mass—an advantage the importance of which is not easily over-estimated.

One of the consequences of this mode of construction was, that all the decoration of the Indian domes was horizontal, or, in other words, the ornaments were ranged in concentric rings, one above the other, instead of being disposed in vertical ribs, as in Roman or Gothic vaults. This arrangement allows of far more variety without any offence to good taste, and practically has rendered some of the Indian domes the most exquisite specimens of elaborate roofing that can anywhere be seen. Another consequence of this mode of construction was the employment of pendants from the centres of the domes, which are used to an extent that would have surprised even the Tudor architects of our own country. With them, however, the pendant was an architectural *tour de force*, requiring great constructive ingenuity and large masses to counterbalance it, and is always tending to destroy the building it ornaments; while the Indian pendant, on the contrary, only adds its own weight to that of the dome, and has no other prejudicial tendency. Its forms, too, generally have a lightness and elegance never even imagined in Gothic art; it hangs from the centre of a dome more like a lustre of crystal drops than a solid mass of marble or of stone.

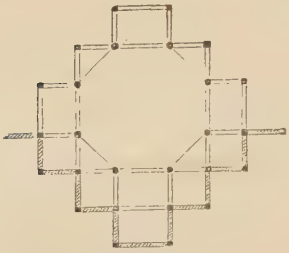
As before remarked, the eight pillars that support the dome are never left by themselves, the base being always made square by the addition of four others at the angles. There are many small buildings so constructed with only twelve pillars, as shewn in the diagram overleaf (No. 1041), but two more are oftener added on each face, making twenty altogether, as shewn in the upper side of the following diagram (No. 1042); or four on each face, making twenty-eight; or again, two in front of these four, or six on each face, so as to make thirty-six; and the same system of aggregation is carried on till the number of pillars reaches fifty-six (woodcut No. 1043), which is the largest number I ever saw surrounding one dome; but any number of these domes may surround one temple, or central dome, and the number consequently be multiplied *ad infinitum*. When so great a number of pillars is introduced as in the last instance, it is usual to make the outmost compartment on each face square, and surmount it with a smaller dome. This is occasionally though rarely done even with the smallest number.

The first result of this arrangement is, that the Hindus obtained singularly varied outline in plan, producing the happiest effects of

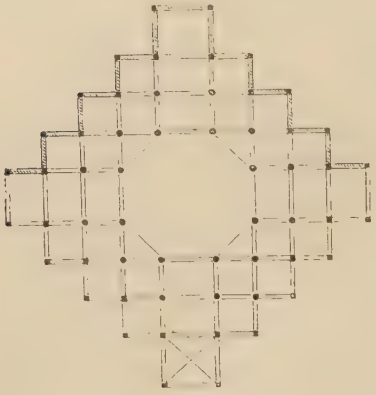
light and shade with every change in the sun's position. Another result was, that by the accentuation of the salient and re-entering angles, they produced those strongly-marked vertical lines which give such an appearance of height to Gothic designs. To accomplish this, however, the Western architects were obliged to employ buttresses, pinnacles, and other constructive expedients. The Hindus obtained it by a new disposition of the plan without anywhere interrupting the composition. This form of outline also expresses the internal arrangements of the porch better than could be done by the simpler outline of either a square or circle, such as is usually employed in Europe. Its greatest merit, however, is, that the length of the greater aisles is exactly proportioned to their relative width as compared with that of the subordinate aisles. The entrance being in the angle, the great aisle forms the diagonal, and is consequently in the ratio of 10 to 7, as compared to what it would be if the entrance were in the centre of the side, where we usually place it. From the introduction of the octagonal dome in the centre the same proportion (correctly 707 to 1000) prevails between the central and side aisles, and this again is perhaps the most pleasing that has yet been introduced anywhere. In Gothic churches the principal aisles are generally twice as wide as the side ones, but they are also twice as high, which restores the proportion. Here, where the height of all is the same, or nearly so, this gradation just suffices to give variety, and to mark the relative importance of the parts, without the one overpowering the other: and neither has the appearance of being too broad nor too narrow.



1041. Diagram of the arrangement of the pillars of a Jaina Dome.



1042. Diagram Plan of Jaina Temple.



1043. Diagram of Jaina Temple.

It is of course difficult for those who have never seen a building of the class just described to judge of the effect of these arrangements;

and they have seldom been practised in Europe. There is, however, one building in which they have accidentally been employed to a considerable extent, and which owes its whole beauty to the manner in which it follows the arrangement above described. That building is Sir Christopher Wren's church of St. Stephen's, Walbrook. Internally its principal feature is a dome supported on eight pillars, with four more in the angles, and two principal aisles crossing the building at right angles, with smaller square compartments on each side. This church is the great architect's masterpiece, but it would have been greatly improved had its resemblance to a Hindu porch been more complete. The necessity of confining the dome and aisles within four walls greatly injures the effect as compared with the Indian examples. Even the Indian plan of roofing, explained above, might be used in such a building with much less expense and less constructive danger than a Gothic vault of the same extent.

CHAPTER III.

DRAVIDIAN STYLE.

CONTENTS.

Historical notice — Form of Temples — Porches of Temples — Gateways — Pillared Halls — Temples at Seringham, Trivalur, Tinnevelly, &c. — Kylas at Ellora — Construction of Rock-cut Temples — Modern Hindu style in the South.

CHRONOLOGY.

Kula Sechara founds Madura about the Christian era.	Deva, his grandson, completes temple at Chilumbrum . . . . . A.D. 1004
Vansa Sechera rebuilds it, ninth century; founds the college of Madura.	Kylas at Ellora, excavated by Cholan princes about 1000
Vikrama Chola—rise of Cholan supremacy, capital, Tanjore . . . . . A.D. 827	Rise of Chalukya power 1058
Vira Chola builds temple at Chilumbrum; Ari Vari	Trimul Naik rebuilds Madura 1621

Historical Notice.

The position of the provinces within which the Dravidian style prevailed will be easily recognized by a reference to the map on page 452. Generally, it may be described as all India south of the river Kistnah, with the exception of Mysore. In modern times, the Dravidian form has extended to that province also; but, as the map only pretends to exhibit the limits of the styles at their ages of highest development, Mysore must be considered as belonging to the Chalukya. It is very difficult to define the limits of the style on the west coast. My impression is, that the parts of the map shaded with a perpendicular tint below the Ghâts ought to be marked out as a separate architectural province, and designated as the region of the Canarese style; but, in order not to multiply divisions, as all mention of it is omitted from the text, so it is also from the map.

The country between the Kistnah and the Nerbudda rivers seems never to have been sufficiently thickly peopled, at least in ancient times, for any rich or powerful states to have been established within its boundaries. Consequently, we do not find many temples there, and those that are known to exist have been so imperfectly drawn or described that they cannot at present be rendered available for elucidating the history of the style.

The country to the south of the Kistnah has from the earliest times been inhabited (above the Ghâts at least) by people of the Tamulian

race, who, so far as we know, may practically be considered the first settlers in the country. So far as their traditions reach, they have been divided into three kingdoms or states, the Pandyas, the Cholas, and the Cheras, forming a little triarchy of powers, neither interfered with by the other nations of the earth, nor interfering with those beyond their limits. During the greater part of their existence all their relations of war and peace have been among themselves, and they have grown up a separate people, as unlike the rest of the world as can well be conceived.

Of the three, the most southern was called the Pandyan kingdom, it was the earliest civilized, and seems to have attained sufficient importance about the time of the Christian era to have attracted the special attention of the Greek and Roman geographers. How much earlier it became a state, or had a regular succession of rulers, we know not,[1] but it seems certainly to have attained to some consistency as early as five or six centuries before the Christian era, and maintained itself within its original boundaries, till in the middle of the last century it was swallowed up in our all-devouring aggression.

During this long period the Pandyans had several epochs of great brilliancy and power, followed by long intervening periods of depression and obscurity. The first and fifth or sixth centuries seem to have been those in which they especially distinguished themselves. If buildings of these epochs still exist, which is by no means improbable, they are utterly unknown as yet, as well as all those of the intervening periods down to the reign of Trimul Naik, A.D. 1624. This prince adorned the capital city of Madura with many splendid buildings, some of which have been drawn by Daniell and others. What more ancient remains there may be will not be known till the place has been carefully and scientifically explored.

The Chola kingdom extended northwards from the valley of the Cauvery and Coleroon rivers, whose banks seem always to have been its principal seat, nearly to Madras, all along the eastern coast, called after them Cholomandalam or Coromandel. The date of the origin of their kingdom is not known, but their political relations with Cashmere can be traced as early as the fifth century, and probably earlier. Their epoch of greatest glory, however, was between the 9th and 11th centuries, when they seem to have conquered not only their neighbours the Pandyas and Cheras, but even to have surpassed the bounds of the triarchy, and carried their arms into Ceylon, and even as far north as Ellora, where the great Kylas cave was excavated, either by them or under their influence. After this period they had no great revival

[1] The best account of this state is that given by Professor Wilson in vol. iii. of the Journal R. A. S., but many scattered notices are found in Taylor's 'Analysis of the Mackenzie MSS.,' and elsewhere.

like the Pandyas under Trimul Naik, but sank step by step under the Mahomedans, Mahrattas, and English, to their present state of utter political annihilation.

The Cheras occupied the country above the Ghâts between Mysore and Madura, and to the west of the Chola country. They seem never to have been so important as either of their neighbours, and certainly never were such temple-builders, their country being singularly bare of important monuments of this class. They were conquered by the Cholas in the tenth century, and never afterwards regained their former power or position – having only recovered their independence to sink again, after a short interval, under the rising power of the rajahs of Mysore and Vijanuggur.[1]

Although, politically, these three states always remained distinct, and generally antagonistic, the people belonged to the same race. Their architecture is different from any other found in India, but united in itself, and has gone through a process of gradual change from the earliest times at which we become acquainted with it, until we lose sight of it altogether in the last century. This change is invariably for the worse, the earlier specimens being in all instances the most perfect, and the degree of degradation forming, as mentioned above, an exact chronometric scale, by which we may measure the age of the buildings.

Buddhism does not seem to have ever gained a footing of any importance among any of the Dravidian races of India, and as early as the seventh century, the few votaries of Buddha that existed in the south of India were finally expelled.[2] So completely was it extirpated that I do not know of one single Buddhist monument south of the Kistnah, except the tope at Amravati described above, and am inclined very much to doubt if any really important ones ever existed.

The Jaina religion, on the contrary, continued to flourish at Conjeveram and in the Mysore, and seems to have succeeded Buddhism in these places, and to have attracted to itself whatever tendency there may have been towards the doctrines of Buddhism on the part of the southern people. Though influential from their intelligence, the Jains never formed more than a small numerical fraction of the people among whom they were located.

The Hindu religion, which thus became supreme, is commonly known by the name of Brahminical, from the Brahmins who are the priests belonging to its two great sects. These two sects consist of the worshippers of Siva and of Vishnu, and are now quite distinct and almost antagonistic; but both are now so overloaded

[1] For an account of the Chera kingdom see a paper by Mr. Dowson in vol. viii. of the Journal R. A. S.

[2] The documents collected by Colonel Mackenzie are full of the disputes which ended in the persecution, and these extended from the 5th to the 7th century.

with absurd fables and monstrous superstitions, that it is very difficult to ascertain what they really are or ever were. Nor are we yet in a position to speak confidently of their origin. The worship of Siva, however, seems to be a purely local form of worship, elaborated most probably from the primitive superstitions of some of the aboriginal races, and rising into importance as the purer faiths of the intruding races became obliterated. The one point of contact with any foreign faith is the worship of the bull Nundi, which seems to resemble the veneration of the Egyptians for the sacred Apis; and there are resemblances between the plans of Egyptian temples and those found in southern India which may one day enable us to speak more decidedly on this subject. At present we only dimly conjecture that there may have been a more intimate connexion between the two countries than is generally supposed, without daring to insist upon it.

On the other hand, the recent discoveries in Assyria seem to point to that country as the origin of much that we find underlying the local colouring of the Vishnave faith. Garuda, the eagle-headed Vahana, and companion of Vishnu, seems identical with the figure now so familiar to us in Assyrian sculpture, probably representing Ormazd. The fish-god of the Assyrians, Dagon, prefigures the "Fish-Avatar," or incarnation of Vishnu. The man-lion is not more familiar to us in Assyria than in India, and tradition generally points to the West for the other figures scarcely so easily recognised—more especially Bali, whose name alone is an index to his origin; and Maha Assura, who, by a singular inversion, is a man with a bull's head,[1] instead of a bull with a man's head, as he is always figured in his native land. It is worthy of remark that the ninth Avatar of Vishnu is always Buddha himself, thus pointing to a connexion between these two extremes of Indian faith; and we are told by inscriptions of the 14th century that there was then no appreciable difference between the Jains and Vishnaves.[2] Indeed it seems impossible to avoid considering these three faiths as three stages of one superstition of a native race—Buddhism being the oldest and purest; Jainaism a faith of similar origin, but overlaid with local superstitions; and Vishnuism a third form, suited to the capacity of the natives of India in modern times, and to compete with the fashionable worship of Siva. On the surface of Vishnuism native superstitions prevail everywhere: the traces of Buddhism and Jainaism can only be detected by those who look below the surface.

Whether Buddhism had any formal connection or not with Assyria remains to be seen. The Jains and the followers of Vishnu do appear

[1] See Dr. Babington, Plate 4, vol. ii. Trans. R. A. S., for the sculpture at Maha Balipuram.

[2] Asiatic Researches, vol. ix. p. 270, and vol. xvii. p. 285.

to have borrowed much from the valley of the Euphrates, and these similarities may hereafter lead to important ethnographic determinations.

Both these religions have borrowed an immense amount of nomenclature from the more abstract religions of the Aryan races, and both profess to venerate the Vedas and other scriptures in the Sanscrit language. Indeed it is all but impossible that the intellectual superiority of that race should not make itself felt on the inferior tribes, but it is most important always to bear in mind that the Sanscrit-speaking Aryan was a stranger in India. All that is intellectually great in that country—all, indeed, which is written—belongs to them; but all that is built—all, indeed, which is artistic—belongs to other races, who were either aboriginal or immigrated into India at earlier or subsequent periods, and from other sources than those which supplied the Aryan stock.

There does not seem to be any essential difference either in plan or form between the Sivite and Vishnave temples in the south of India. It is only by observing the images or emblems worshipped, or by reading the stories represented in the numerous sculptures with which a temple is adorned, that we find out the god to whom it is dedicated. Whoever he may be, the temples consist almost invariably of the four following parts, arranged in various manners, as afterwards to be explained, but differing in themselves only according to the age in which they were executed:—

1. The principal part, the actual temple itself, is called the *Vimana*. It is always square in plan, and surmounted by a pyramidal roof of one or more storeys; it contains the cell in which the image of the god or his emblem is placed.

2. The porches or *Mantapas*, which always cover and precede the door leading to the cell.

3. Gate pyramids, *Gopuras*, which are the principal features in the quadrangular enclosures which always surround the *Vimanas*.

4. Pillared halls or *Choultries*, used for various purposes, and which are the invariable accompaniments of these temples.

Besides these, a temple always contains tanks or wells for water—to be used either for sacred purposes or the convenience of the priests,—dwellings for all the various grades of the priesthood attached to it, and numerous other buildings designed for state or convenience.

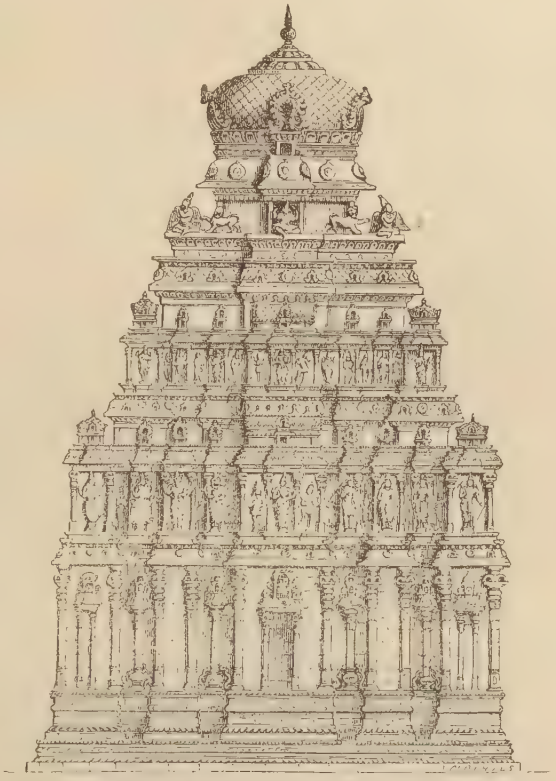
VIMANAS.

The *Vimana*, though frequently not the largest, is always the most important part of a Hindu temple, being in fact the sanctuary or temple itself. As before stated, it is always square in plan. In smaller temples the perpendicular part is generally equal in height to its

breadth, or, in other words, it forms a cube. In the larger temples its height is very much less than its breadth; but, nevertheless, I believe that the cell which it contains (the *garbha griha*, or womb of the house) is always a cube, or intended to be so; but it is so difficult to gain access to it, that I am by no means certain this is always the case.

The perpendicular part is always of stone, generally of granite, decorated with pilasters, niches, and other ornaments common to this style. The pyramidal roof is usually of brickwork covered with stucco. This in the smallest temples is only one storey high, but in larger ones, such as that at Tanjore (woodcut No. 1045), it rises through fourteen storeys to a height of nearly 200 ft.

The annexed woodcut (No. 1044) represents one three storeys in height at Madura, belonging probably to the age of Trimul Naik, and shows all the interesting peculiarities of the more modern style. It is easy to trace the descent of this building from one of the very curious rock-cut temples at Mahavellipore, described above.[1]



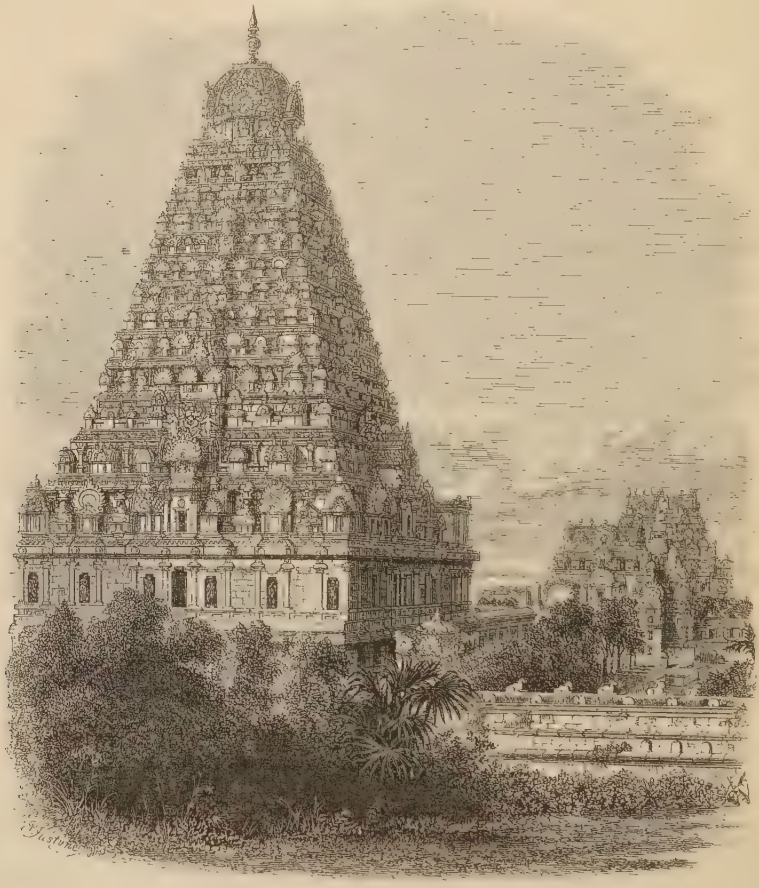
1044. Perumal Pagoda, Madura. From a MS. Drawing in the possession of General Monteith, Madras Engineers. No scale.

Every part of the one is represented in the other, with such difference only as the difference of age (about 300 years) would lead us to expect. Thus the little cells, which are the principal ornaments of the Mahavellipore temple, have here become niches. It is evident that both are derived from some common source, the later example receding farther from the original.

Both, it will be seen, are covered with a small domelike termina-

[1] See p. 503, woodcut No. 1006.

tion, which is common to all temples in the south, without exception, so far as I know; but in no instance can it be traced to a dome of construction. That it is borrowed from the Buddhist tope will be tolerably evident by referring to woodcut No. 1029, where a similar termination covers a Nepalese kosthakar; but in that instance it undoubtedly is meant to represent the sacred emblem of the Buddhists. In the older example at Mahavellipore it looks more like the umbrella



1045. View of the Great Pagoda at Tanjore. From a Photograph, by Middleton Rayne, Esq., C.E.

that crowns the Buddhist relic-shrine (see woodcut No. 977) than the relic-shrine itself; but in either case its origin can hardly be considered doubtful.

By far the most magnificent temple in India is the great pagoda at Tanjore; its base measures 82 ft. each way, it is two storeys in height, and its pyramidal roof rises through fourteen storeys to a height of 180 or 200 ft. Its age has not yet been satisfactorily ascertained,

though its base is covered with inscriptions that would reveal its history if any one would take the trouble to read them. As far as can be ascertained, it belongs to the great age of the Chola dynasty, probably the 10th or 11th century; but if so its upper part must have undergone a very thorough repair at some later date, possibly on its appropriation to Sivaism; for as its gateways are decidedly Vishnave, the temple probably was so also when first built, but, like many others in India, given over to the more popular faith at some subsequent period. At all events it is the finest temple in the south, being almost the only one in which the *vimana* or temple is the principal object round which the subordinate ones are grouped in such a manner as to make a great and consistent whole. Generally speaking, they have been aggregated together as if by accident, and the principal object is so overpowered by the secondary ones as utterly to destroy all appearance of design.

In most instances the light is admitted to the cell only by its doorway; but as if this were not sufficient to ensure the obscurity which they covet so much, as enhancing the mystery of the sanctuary, it is generally covered by an ante-temple, or pronaos—called *Anterala*—generally about half as deep as it is broad, its breadth being the same as that of the cell.

Porches or Mantapas.

Beyond the anterala a porch, or *Mantapa*, is found attached to most temples, which is usually a square building, in plan nearly identical with the vimana, and having a door on each of its four sides, one leading to the cell of the temple, the other three admitting light and access to its interior. Its roof is generally pyramidal, but very much lower than that of the temple itself; but often it is flat and devoid of any crowning ornament.

To this another porch sometimes succeeds; and when this is the case, the inner one is distinguished as the Ardha Mantapa, the outer as the Maha Mantapa. When joined together the outer is generally open in front and closed only on the sides, so that it does not materially obstruct the passage of light to the interior. Sometimes it is detached, and then takes any form that fancy may dictate.

The roof of these porches, when large, is supported with pillars; but the Hindu architects never willingly resort to this expedient, generally reducing the bearing as far as possible by bracketing, and projecting cornices, and then aiding the long stones that form the ceiling by beams of wood, or even of iron, laid under them, so as to gain the requisite strength by any contrivance rather than by pillars. Many of the finest temples of India owe their ruin to this strange peculiarity in a people who in other instances lavished columns in their buildings to an extent unknown in any other part of the world.

Gate Pyramids, or Gopuras.

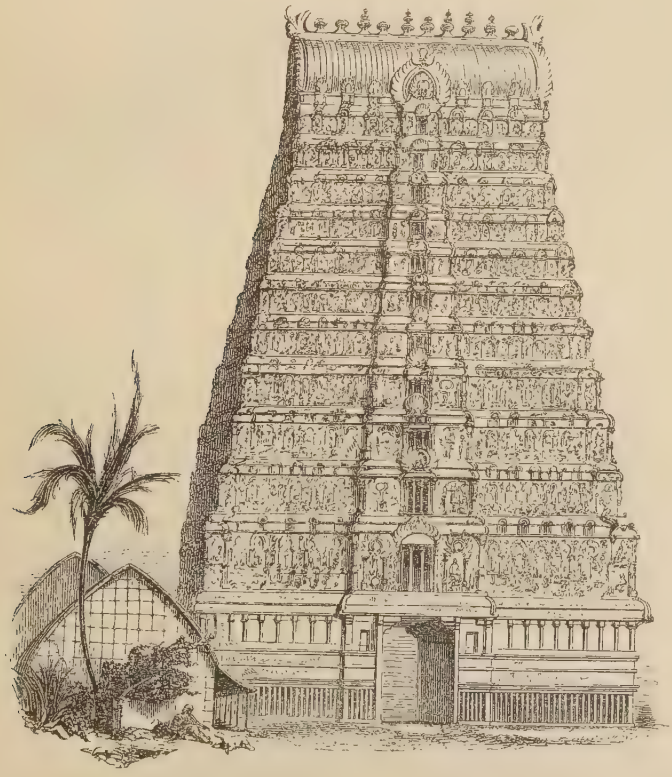
The cell and its porch together form the temple, properly so called: but in all instances they were enclosed—or at least it was intended they should be so—in a rectangular court. The walls of this court are high, and plain externally, but internally ornamented by colonnades and cloisters, or buildings of various sorts adapted to the service of the temple. This gave rise to the Gate Pyramids, which form the entrances to these courts.

When only one wall surrounded the temple, only one gateway was used, directly facing the porch. Where a second enclosure surrounded the first, the outer wall had usually two gateways, one in front of that of the inner wall, the other exactly opposite, behind the temple; with three enclosures, four gopuras were required for the outer enclosure, one in the centre of each face. So that a temple, such as that at Seringham, with seven enclosures, ought to have twenty-three gopuras; the number, however, is seldom complete, Seringham having, I believe, only seventeen, and no other that I am acquainted with has so many.

Another curious practice is, that the gateway is made to bear some proportion to the length of the wall in which it is placed. Thus at Seringham, the inner inclosure being 200 or 300 ft. square, the gate pyramid is only 40 or 50 ft. broad, and the passage through it 10 or 12 ft. wide, and 18 or 20 ft. high; while the outer ones, standing in walls 2475 and 2880 ft. in extent, are 130 ft. wide by 100 ft. deep, the opening 21 ft. 6 in. wide by twice that in height. The jambs are formed of single blocks of granite at least 40 ft. in length, and the whole is roofed by slabs of granite not less than 23 or 24 ft. long. These gateways, though not older than the beginning of the last century, are among the most stupendous buildings of the south of India. This arrangement gives rise to a singular piece of architectural bathos. The original small cell in this, as in many other instances, has become sacred from some mystical cause or other; and instead of either rebuilding it on a larger scale, or building over it, as the Buddhists would have done, the Hindu architect has merely regilt and reornamented it. Enclosure after enclosure, with its gate-towers, was then added, so that there is no central object of attraction. Viewed externally, the temple is a congeries of gate pyramids without object, and on entering you pass from the most magnificent structures to those which are less and less so, till at last you arrive at the meanest thing of all, the *sanctum sanctorum* of the whole temple. To a Hindu its sanctity may hide all its defects; but the architect has certainly failed to work up to the greatness of his subject. Tanjore is one of the few temples in the south which escape this fault, so destructive of architectural grandeur.

The form of the Gopuras is easily understood, as it is identical with

1046. Entrance to a Hindu Temple, Colombo. From Sir J. E. Tennent's 'Ceylon.'



1047. Gopura, Combaconum. From a Sketch by the Author.

that of the Vimanas, except that, instead of being square, they are always larger in one direction than the other, and their longer side is pierced with an opening occupying from one-fourth to one-seventh of the whole width. This oblong shape also necessitates the abandonment of the circular crowning ornament, which is lengthened out to correspond with the general section of the building.

This, like the form of the temples, is explicable by a reference to Buddhist buildings. The large long building, for instance, in woodcut No. 1006, which almost undoubtedly represents the exterior of a Buddhist *chaitya hall*, if pierced with an opening in the side instead of at the end, would form a *Gopura*; and the Hindus, when building in a Buddhist country, still adhere to this form more closely than in their own territories, as may be seen by the woodcut No. 1046, representing the gateway of a temple in Ceylon, still retaining the simple form almost lost in the complication to which their gateways have been subjected in modern times.

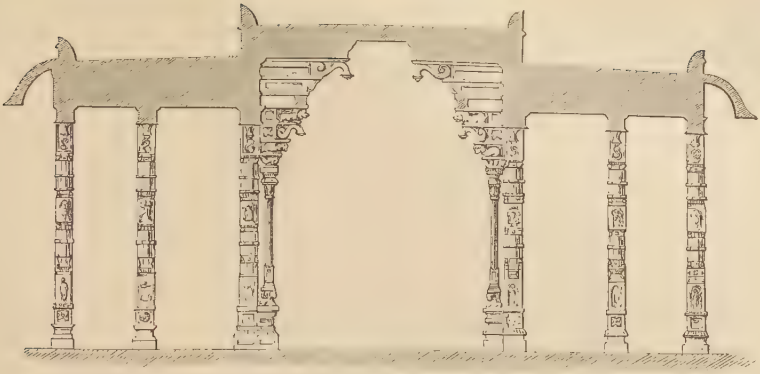
One of the tallest gate pyramids I know of is that belonging to the principal temple at Combaconum (woodcut No. 1047), which became the capital of the Chola after the temporary abandonment of Tanjore. It rises to twelve storeys, including the basement, which is of granite and plain, while the whole of the pyramid is of brick stuccoed, and covered with sculpture and architectural ornaments to an extent undreamt of by European imagination. Its want of proportion, and the endless repetition of small parts, prevent its being so pleasing an architectural object as the smaller gate pyramids generally are, though it is certainly imposing from its mass.

PILLARED HALLS.

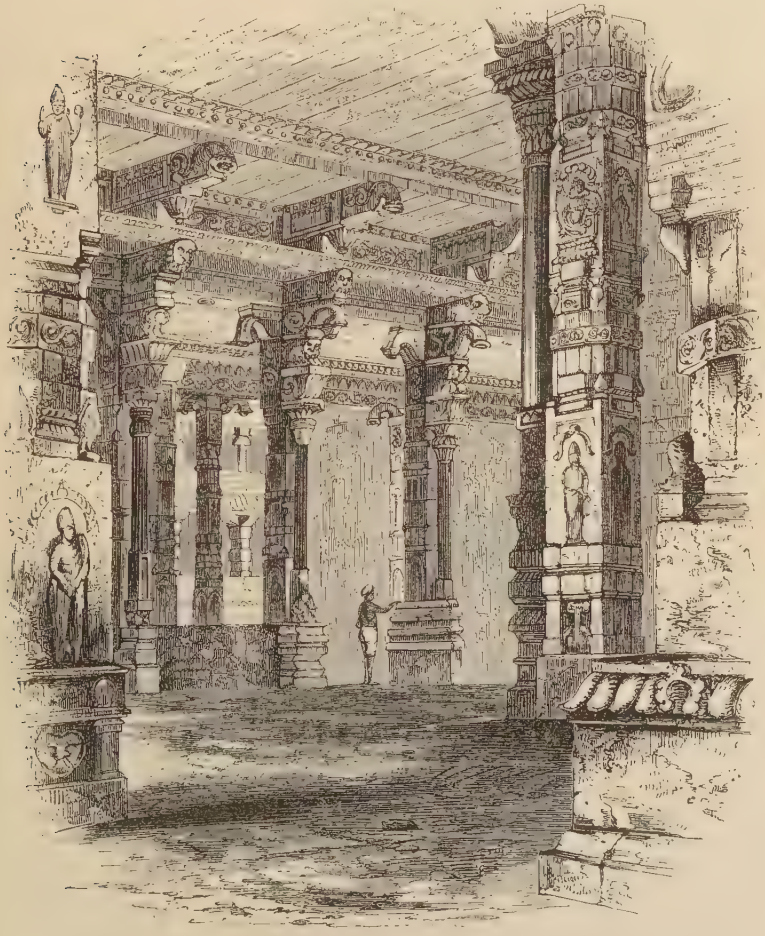
By far the most extraordinary buildings connected with these fanes are the pillared colonnades or *choultries* which occupy the spaces between the various enclosures of the temples. They are of all shapes and sizes, from the little pavilion supported on four pillars up to the magnificent hall numbering a thousand.

Their uses, too, are most various: in ancient times they served as porches to temples; sometimes as halls of ceremony, where the dancing-girls attached to the temples dance and sing; sometimes they are cloisters surrounding the whole area of the temple, at others, swinging porches, where the gods enjoy at stated seasons that intellectual amusement. But by far their most important application is when used as nuptial halls,[1] in which the mystic union of the male and female divinities is celebrated once a year. Those dedicated to these festivals sometimes attain an extent of 1000 columns, and are

[1] In this case they are called *chaöri*, the same word, I believe, radically, as *choultry*.



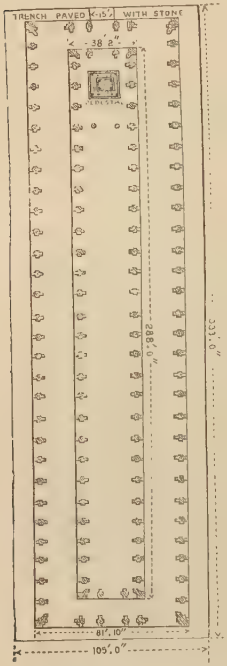
1048. Section of Porch of Temple at Chillumbrum. From a Sketch by the Author. No scale.



1049. View of Porch at Chillumbrum. From Drawings by the Author.

called in consequence "halls of 1000 columns," though they do not in all instances make up this complement.

At Tinnevelly the great pillared hall (woodcut No. 1055) has 100 columns in its length, by 10 in width, so that it would have exactly that number but for the omission of twenty-four to make way for a small temple. At Chillumbrum the hall is twenty-four pillars wide by forty-one in length, which adding the sixteen of the porch, would make up the thousand; but again some are omitted in the centre to admit of space for ceremonies, so that the actual number is only 930. At Tiruvalur (woodcut No. 1054)[1] the great hall is sixteen pillars wide by forty-three in depth, or 688; one-half of them, however, support no roof, so that it is probably unfinished. At Seringham the hall is of about the same extent; and several other temples have halls, the number of whose pillars varies from 600 to 1000; in almost every instance composed of a hard close-grained granite, covered with sculpture from the base to the capital, and in most instances no two pillars are exactly alike. There is thus an endless and bewildering variety in the detail, though the general dimensions and effect are the same.



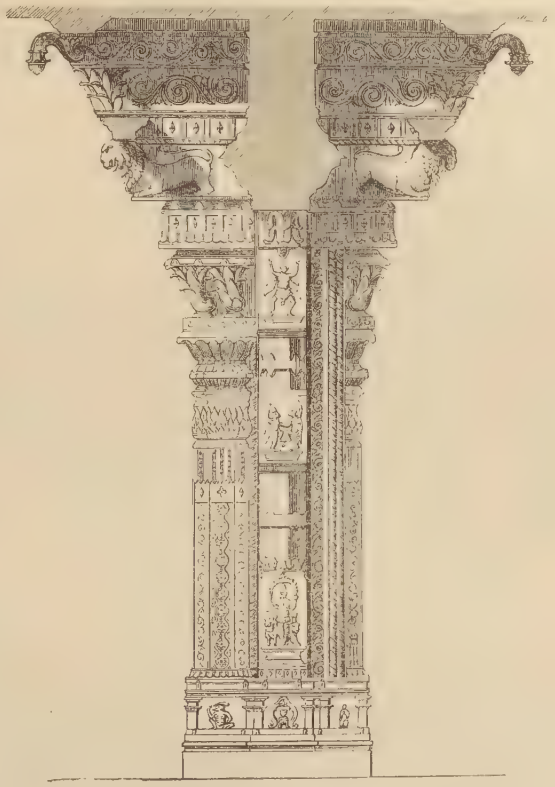
1050. Plan of Trimul Naik's Choultry. From a Drawing in the possession of the Royal Asiatic Society. Scale 100 ft. to 1 in.

The construction of these choultries will be best understood from the section (woodcut No. 1048) of one used as a porch to a small temple at Chillumbrum; as will be seen, it is a five-aisled porch, supported by six square columns, about 18 in. each way and 20 ft. in height. The outer aisles are only 6 ft. in width, the inner 8 ft., and they are roofed simply by flat stones laid side by side. The whole energy of the architect, however, has been reserved for the central aisle, which has a clear width of 21 ft. 6 in.; a space so wide that it would be difficult to span it without using stones heavy enough to crush the substructure. To avoid this a bracketing shaft of singular elegance is attached to the front of the square pillar, and a system of bracketing carried up till the space to be spanned by flat stones is about equal to that of the side-aisles, or in other words the space between the pillars is divided into three equal portions of about 8 ft. each, the side portions borne on the brackets, and the central space only remaining to be roofed. Lest, however, there should be a tendency to lateral weakness in so extensive a bracket, about half-way up

[1] Ram Raz, 'Essay on Hindu Architecture,' Plate xlviii.

it a stay[1] is introduced, in the form of a slight stone beam extending from one to the other, which certainly adds extremely to the elegance, and probably to the strength of the structure.

The general effect of the arrangement of this porch will be seen from the woodcut No. 1049, though it cannot do justice to its singular elegance and grace. It is the oldest example I have seen of the arrangement, dating probably from the 10th century, and therefore the most elegant. The more modern examples, though richer, have lost much of the beauty, and nearly all the constructive propriety and grace, which we find in this. One of the most remarkable of these is the hall built by Trimul Naik at Madura, and tolerably well known to the English public from Daniell's illustration of it. It was commenced in 1623, is said to have cost nearly a million sterling, and occupied twenty-two years in erection.[2] As will be seen by the plan (woodcut No. 1050), the building is 333 ft. long by 81 ft. 10 in. wide, and is supported by 128 pillars or piers, all of which differ, and all are covered with the most elaborate and minute architectural ornaments—many having figures attached to the fronts of them, as well as groups on their sides. In this instance the bracketing shaft has merged into the pillar; the whole becomes a pier from 5 ft. to 6 ft. in width, with scarcely a reminiscence of the original arrangement from which it sprang. The accompanying elevation of one of these (woodcut No. 1051) will show

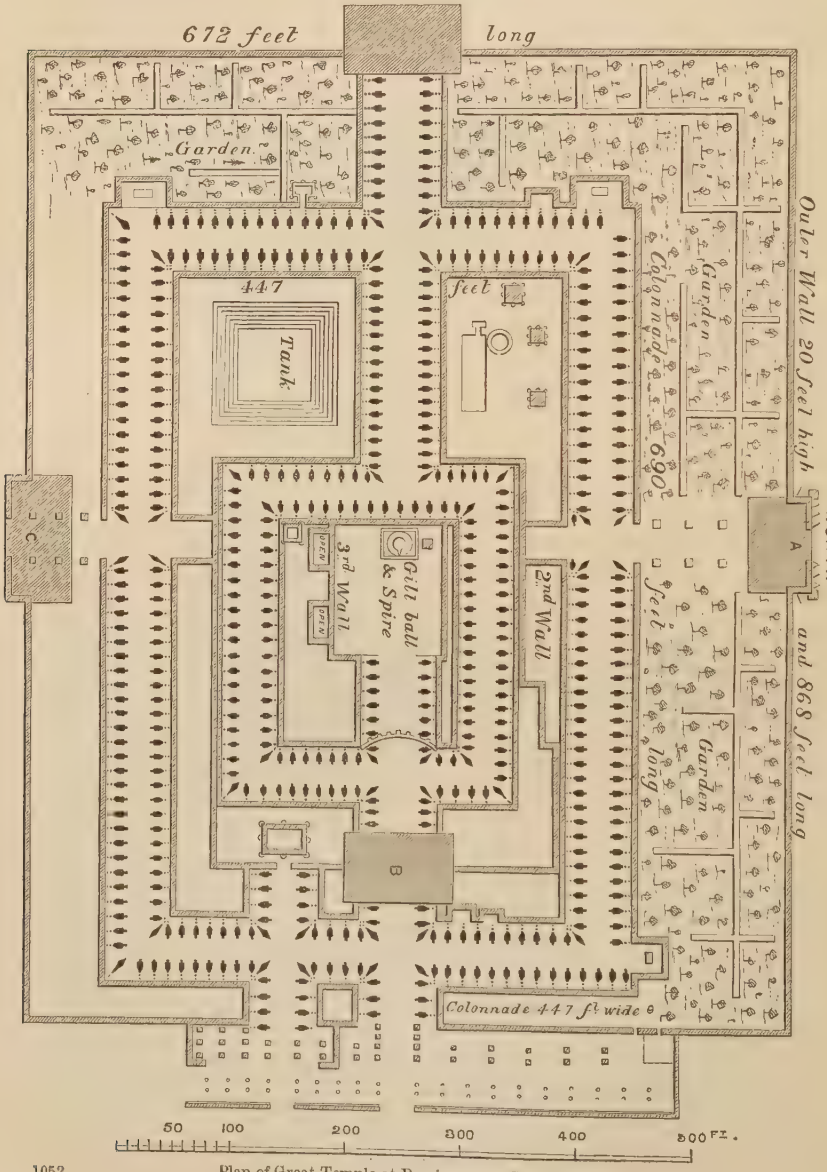


1051. Pillar in Trimul Naik's Choultry. From a Drawing in the possession of the Royal Asiatic Society.

[1] Shewn more clearly in the woodcut No. 1049.

[2] J. R. A. S., vol. iii. p. 232.

the form which the piers took about this time, and which is common to them all, after this date, though not found before. The object in building this magnificent choultry was to provide a suitable abode for the god, who consented to leave his temple for ten days every year, and visit the king, on condition of his providing a suitable building for his reception.



1052. Plan of Great Temple at Ramisseram. Scale 170 ft. to 1 in.

Between these two arrangements—the more modern, where the square pillars merge into flat piers, and the older, in which the square shape is never lost sight of—come the pillared halls of the celebrated temple of Ramisseram on an island between Ceylon and the mainland.[1] From the annexed plan some idea may be formed of its general disposition. The external enclosure measures 868 ft. by 672.[2] Originally it had four great gateways, one on each face; those on the north and south are now in ruins, the other two in very tolerable repair, and, if drawings may be trusted,[3] much more like Egyptian propylons than anything else in Southern India. The remarkable parts of the temple, however, are the colonnades or corridors. As will be seen from the plan, these are of two classes: the outer with a square pier and two pillars behind (as in woodcut No. 1048), and 60 to 65 ft. across internally; the inner with only one pillar behind the pier, and about 10 ft. less in width. Their aggregate length is nearly 4000 ft.; and when we consider that their section is that of a small Gothic church, and their length eight times that of our largest cathedral, that all the pillars are of granite, and all richly carved, it must be admitted that the whole forms one of the most wonderful exhibitions of human labour to be found anywhere. As a design its defect is the want of a central point; but the variety of light and shade, and the wonderful effects of perspective in the long-drawn aisles probably surpass anything of its class to be found elsewhere.

At Beejanuggur there is a porch erected in the 16th century, which, being external, conveys a better idea of the style than the long corridors of Ramisseram, which are all internal, though the effect on the spectators is perhaps more sublime in the dim light of the interior than when the details are seen in the broad light of the Indian sun. As in almost every instance in the Dravidian temples of Southern India, the material employed is granite, each pier being generally one single stone, placed in position in a rough form, and the little shafts and ornaments afterwards detached by undercutting. It is difficult to realise the amount of labour bestowed on even such a portion as that shown in woodcut No. 1053, with its deep overhanging cornices and richly sculptured base; but when a similar amount of detail is repeated through corridors extending to more than 4000 ft., we must award to the Dravidians the palm for patient industry over all the builders hitherto described in this work.[4]

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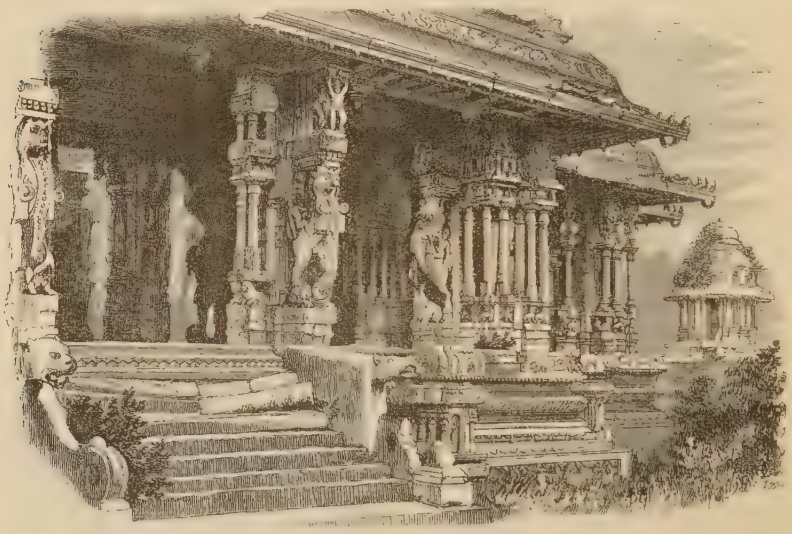
[1] The plan of this temple (woodcut No. 1052) is taken from the Journal of the Geographical Society of Bombay, vol. vii. Salt published a view of its gopura, and in the India Office are MS. views of its interior.

[2] About the length of the river face of the Parliament Houses at Westminster, by twice their depth.

[3] I refer particularly to one by Henry Salt, in the Atlas to Lord Valentia's Travels. The photographer has not yet reached that remote island.

[4] On the right of the next woodcut will be remarked what looks like a small detached temple. It is the car of the god done in stone. The whole, except the roof, is hewn out of a single block of granite.

Where the subordination of parts is preserved, the general effect of these choultries and porches is pleasing, and, from their vastness, sometimes almost reaches to sublimity. But in the more modern times this quality is neglected, and, as at Tinnevelly and Chillumbrum, both of which were erected during the last century, the choultries are mere collections each of 1000 columns, placed at equal distances, generally no more than 6 ft. apart, without any variety or harmony of arrangement whatever. Such a forest of pillars, so carved and elaborated, cannot fail to produce some effect, but it would be difficult to conceive any design on which so much labour could be bestowed productive of so little beauty or grandeur.



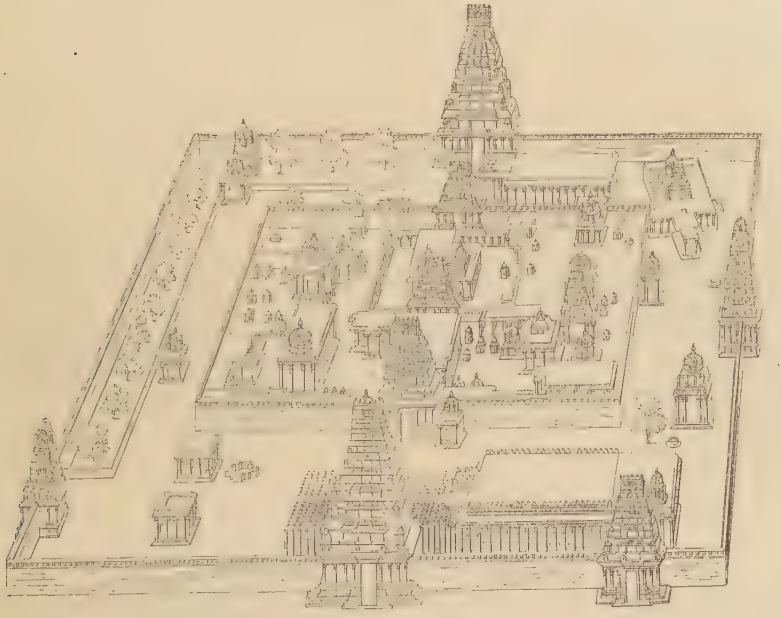
1053. View of Porch of Temple of Witoba at Beejanuggur. From a Photograph by Mr. Neill.

In other instances, as at Seringham, Conjeveram, and elsewhere, a middle course is followed between these two extremes, the great hall being traversed by one wide aisle in the centre for the whole of its greater length, and intersected by transepts of like dimension running across at right angles. There still remain seven side-aisles on each side, in which all the pillars are equally spaced out. In these, looking outwards from the centre aisle, the arrangement is not without a certain magnificence of effect, but it does not exhibit the sublimity of the long-drawn vistas of Ramisseram, nor the spacious exuberance of Trimul Naik's choultry at Madura, nor the massive grandeur of the porch of Witoba at Beejanuggur.

The mode in which those various parts are generally grouped together will be understood by the two following illustrations; one (No. 1055) a plan of the temple at Tinnevelly, the other (No. 1054) an isometric view of that at Tiruvalur, both comparatively modern

examples, but sufficiently characteristic to explain all that has been said of the style.

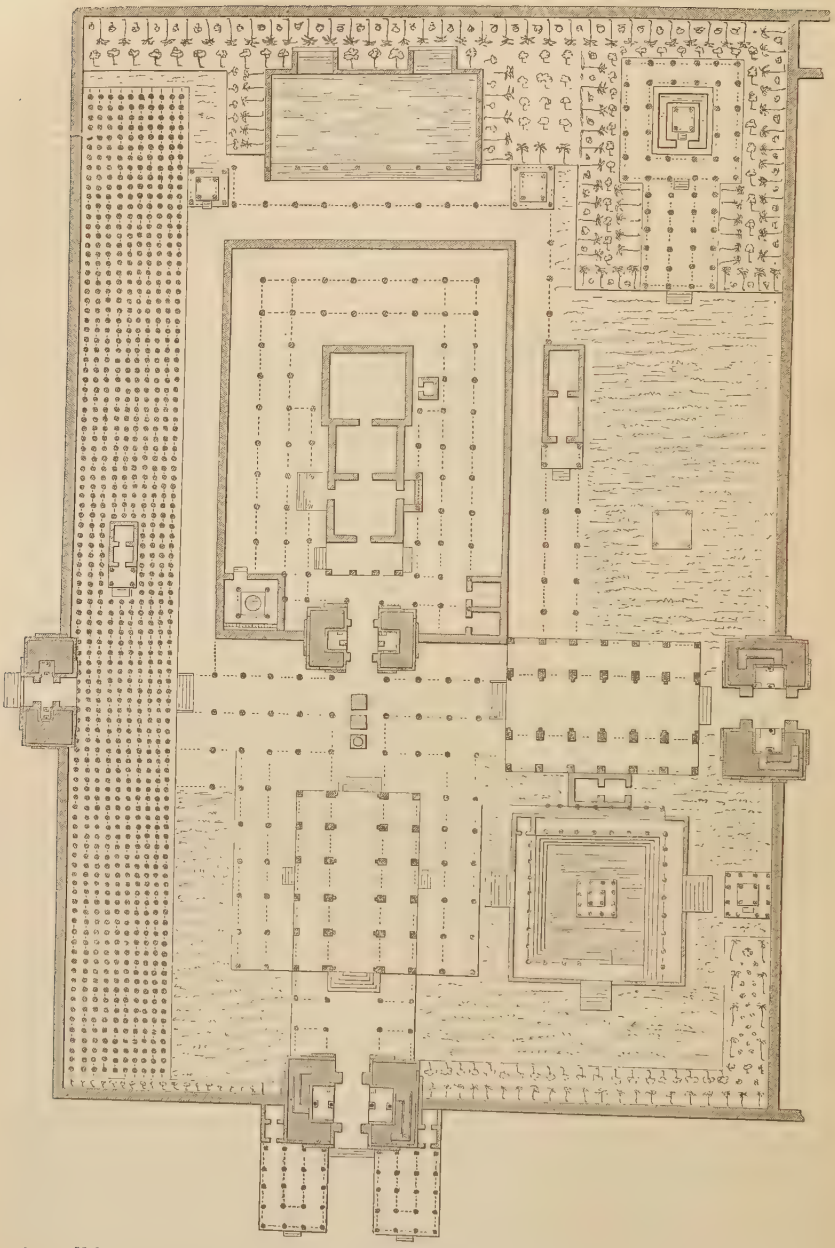
The temple at Tiruvalur measures externally 945 ft. by 701 ft., and has five gate pyramids in its outer enclosure, two in the second, and one in the inner. The sanctuary is double, and surrounded by a cloister. The next enclosure is crowded by temples and buildings of every shape and size, placed without the least reference to symmetrical arrangement. In the outer court are several larger temples, some placed at different angles from the rest; and towards the principal entrance is the great choultry, intended apparently to have had 1000 columns, but evidently unfinished, one-half of those already erected



1054. Temple at Tiruvalur. From a Drawing in Ram Raz's 'Hindu Architecture.'

having no roof to support. As before mentioned, the number now standing is 688. These are all equally spaced, except that there is a broad aisle down the centre, and a narrower transverse avenue in the direction of the entrance. Hence it will easily be understood how inferior, as an architectural design, it is to such an arrangement as that of the 420 columns of the temple at Sadree,[1] or indeed of any Jaina building, however small. Their uniformly flat roofs prevent even the older choultries from reaching the beauty of these domical examples; while the modern ones are certainly immeasurably inferior.

[1] See pp. 628, 629, woodcuts Nos. 1087, 1088, 1089.



1055. Half-plan of Temple at Tinnevelly. From a Plan in the possession of the Royal Asiatic Society. Scale 100 ft. to 1 in.

Though neither among the largest nor the most splendid temples of Southern India, that at Tinnevelly will serve to give a good general idea of the arrangement of these edifices, and has the advantage of having been built on one plan, and at one time, without subsequent alteration or change. It is also a double temple, the great square being divided into equal portions, of which one is dedicated to the god Siva, the other to his consort Parvati. The plan opposite represents one of the halves, which, though differing in arrangement from the other, is still so like it as to make the representation and description of one sufficient for both.

The general dimensions of the whole enclosure are 508 ft. by 756 ft., the larger dimension being divided into two equal portions of 378 ft. each. There are three gateways to each half, and one in the wall dividing the two; the principal gateway faces the entrance to the temple, and the lateral ones are opposite each other. An outer portico precedes the great gateway, leading internally to a very splendid porch, which, before reaching the gateway of the inner enclosure, branches off on the right to the intermediate gateway, and on the left to the great hall of 1000 columns—10 pillars in width by 100 in length.

The inner enclosure is not concentric with the outer, and, as usual, has only one gateway. The temple itself consists of a cubical cell, surmounted by a vimana or spire, preceded by two porches, and surrounded by triple colonnades. In other parts of the enclosure are smaller temples, tanks of water, gardens, colonnades, &c., but neither so numerous nor so various as are generally found in Indian temples of the class.

Without wishing to lay too much stress upon it, it is impossible to avoid remarking the striking similarity which exists between this temple and that at Jerusalem; and if Josephus's description of the Temple as rebuilt by Herod be read with such a plan as this of Tinnevelly before us, it is difficult to escape the conviction that the coincidences are not wholly accidental. That temple must, of course, be squared as these usually are, and the dimensions then become nearly the same. The great *choultry* is then the Stoa Basilica, the outer court that of the Gentiles. No separation of the sexes being known in the Eastern temples, the women's court is omitted; but the inner enclosure, the form of the temple, its gateway, its pillars, and other peculiarities are so like in both that we can scarcely doubt their being derived from some common origin. But what that common origin may have been we probably have no means of ever tracing.

On the other hand, no one can well study, with any care, the arrangements of these Dravidian temples without being struck with the many points of resemblance between them and the buildings still existing on the banks of the Nile, especially at Thebes. The gopuras,

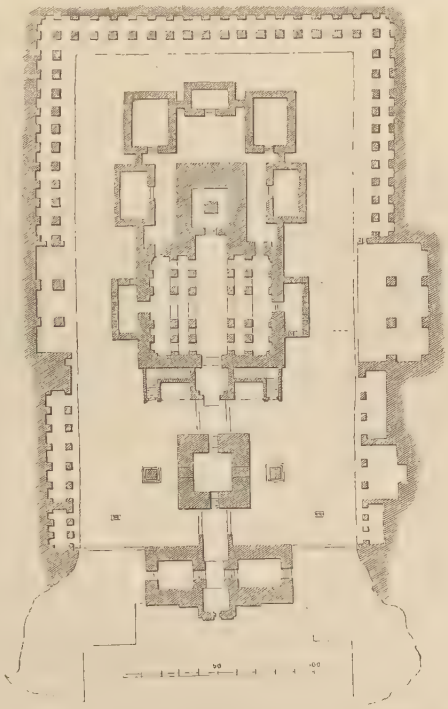
both in position and purpose, reproduce almost exactly the great pylons of Egypt. The choultry answers exactly to the hypostyle hall; the small sanctuary, scarcely seen from the outside, is common to both; and the high enclosing wall is peculiarly characteristic of the two styles. In these, and many other particulars, the temples of the two countries very much resemble one another, and are very unlike any other temples found in any other parts of the world. So striking indeed is the similarity, that it again seems difficult to believe that all these coincidences are accidental. But, on the other hand, when we look more closely into the matter, and ask at what time and by what means such an amount of communication could have taken place between India and Egypt that the style and worship of the latter could have been introduced into the East, our knowledge fails us. The connexion between the people inhabiting the valleys of the Euphrates and of the Indus is easily intelligible, and the extension of the influence of Assyria into India is a matter of no difficulty. But the intercourse between Egypt and Dravidia must have been by sea; and if so, when and how? Future researches may throw some further light on this subject. At present it seems impossible to form any definite opinion regarding it.

KYLAS AT ELLORA.

One of the most interesting monuments of Hindu architecture is the rock-cut temple at Ellora, generally known as the Kylas. Its beauty and singularity always excited the astonishment of travellers, and in consequence it is better known than almost any other structure in that country, from the numerous views and sketches of it that have been published. Unlike the Buddhist excavations we have hitherto been describing, it is not a mere interior chamber cut in the rock, but is a model of a complete temple, such as might have been erected on the plain. In other words, the rock has been cut away, externally as well as internally. The older caves are of a much more natural and rational design than this temple, because, in cutting away the rock around it to provide an exterior, the whole has necessarily been placed in a pit. In the cognate temples at Mahavellipore (woodcut No. 1006) this difficulty has been escaped by the fact that the boulders of granite out of which they are hewn were found lying free on the shore; but at Ellora, no insulated rock being available, a pit was dug around the temple in the sloping side of a hill, about 100 ft. deep at its inmost side, and half that height at the entrance or gopura, the floor of the pit being 150 ft. wide and 270 ft. in length. In the centre of this rectangular court stands the temple, as shown in the annexed plan (woodcut No. 1056), consisting of a vimana, between 80 ft. and 90 ft. in height, preceded by a large square porch, supported by sixteen columns (owing probably to the immense weight to be

borne); before this stands a detached porch, reached by a bridge; and in front of all stands the gateway, which is in like manner connected with the last porch by a bridge, the whole being cut out of the native rock. Besides these there are two pillars or deepdans (literally lamp-posts), left standing on each side of the detached porch, and two elephants about the size of life. All round the court there is a peristylar cloister with cells, and some halls not shown in the plan, which give to the whole a complexity, and at the same time a completeness, which never fail to strike the beholder with astonishment and awe.

As will be seen by the view (woodcut No. 1057), its general form is extremely similar to that of the principal temple at Mahavellipore (No. 1006), and also to that at Tanjore (No. 1045); and although it is not easy to make this apparent on the small scale of the woodcuts, I can assert, from personal inspection of the three examples, that they are of the same Dravidian style. Some allowance, of course, must be made for the difference of age, the Kylas belonging to the 9th or 10th, the Mahavellipore Raths to either the 12th or 13th century, and the Tanjore temple, though probably intermediate between the two, having, as before stated, been altered at some subsequent period to its present form. That they belong to the same race and the same religion seems undoubted; and they are, as will presently be shown, so unlike anything further north, that there can be little doubt that it is to an overflowing of the Tamul races that we owe the Kylas, and probably also the introduction of the Sivite religion into the countries previously occupied by the Buddhists and northern races of Hindostan.



1056. Kylas at Ellora. Corrected from a Plan in Daniell's 'Views in Hindostan.' Scale 100 ft. to 1 in.

As the oldest of the three buildings, the Kylas presents an interesting peculiarity which we might expect, but do not find elsewhere,

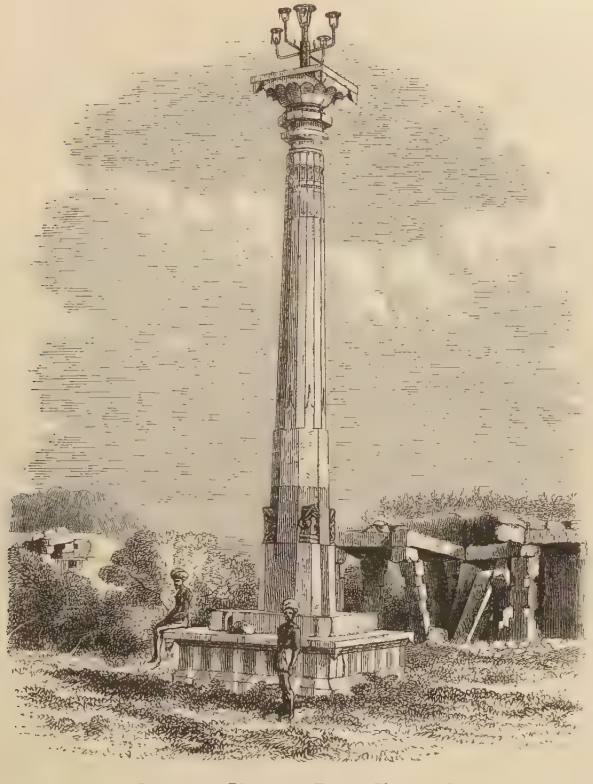
namely, that the cells surrounding the vimana are detached, five of them opening in a little court-yard surrounding the vimana, each with a separate entrance of its own, and destined for its own peculiar image or object of worship. The fourth side of this court-yard is occupied by the porch. At Mahavellipore the cells may be called semi-detached, each being distinct, though in reality they are only false cells. In the Perumal pagoda (woodcut No. 1044) they have grown to be actually parts of the vimana, and so they are always treated at the present day. It is interesting to trace the process from the detached cell of the Buddhists as found in Java to its present descendants, a descent which, without the intermediate steps, we could scarcely recognise.

1057. Kylas, Ellora. From a Sketch by the Author.

On either side of the porch are the two square pillars called Deepdans, or lamp-posts, before alluded to, the ornament at the top of which possibly represents a flame, though it is difficult to ascertain what it really is, while the temptation to consider them as representatives of the lion pillars of the Buddhists (woodcut No. 969) is very great.

In the south of India, however, such pillars are very common, standing either singly or in pairs in front of the gopuras, and always apparently intended to carry lamps for festivals. They generally consist of a single block of granite, square at base, changing to an

octagon, and again to a figure of sixteen sides, with a capital of very elegant shape. Some, however, are circular, and, indeed, their variety is infinite. They range from 30 ft. to 40 and even 50 ft. in height, and, whatever their dimensions, are among the most elegant specimens of art in Southern India.



1058. Deepdan in Dharwar. From a Photograph.

Considerable misconception exists on the subject of cutting temples in the rock. Almost every one who sees these temples is struck with the apparently prodigious amount of labour bestowed on their excavation, and there is no doubt that their monolithic character is the principal source of the awe and wonder with which they have been regarded, and that, had the Kylas been an edifice of masonry situated on the plain, it would scarcely have attracted the attention of European travellers. In reality, however, it is considerably easier and less expensive to excavate a temple than to build one. Take, for instance, the Kylas, the most wonderful of all this class. To excavate the area on which it stands would require the removal of about 100,000 cubic yards of rock, but, as the base of the temple is solid and the superstructure massive, it occupies in round numbers about one-half

of the excavated area, so that the question is simply this—whether it is easier to chip away 50,000 yards of rock, and shoot it to spoil (to borrow a railway term) down a hill-side, or to quarry 50,000 cubic yards of stone, remove it, probably a mile at least to the place where the temple is to be built, and then to raise and set it. The excavating process would probably cost about one-tenth of the other. The sculpture and ornament would be the same in both instances, more especially in India, where buildings are always set up in block, and the carving executed *in situ*. Nevertheless the impression produced on all spectators by these monolithic masses, their unalterable character, and appearance of eternal durability, point to the process as one meriting more attention than it has hitherto received in modern times; and if any rock were found as uniform and as easily worked as the Indian amygdaloidal traps, we might hand down to posterity some more durable monument than many we are now erecting at far greater cost.

Before leaving the subject of southern temples, I must allude to another at Tanjore, which, at a distance, almost rivals in dimensions and outline the Great Pagoda (woodcut No. 1045), of which it is evidently a copy. On a nearer inspection, however, it is found to be made up wholly of Italian details of the very worst class. The external cells are ornamented with Corinthian and Ionic pilasters, as badly designed as they are executed, alternating with ranges of balusters of the dumpiest and clumsiest forms. The whole is painted with a vulgarity which it is difficult to understand in a people who have shown such taste in earlier times, and so exquisite an eye for colour and detail. Such, however, are the effects of the miserable state of dependence to which they have been reduced, and such the results of an attempt to copy servilely a style unsuited to their purposes, and which they can neither understand nor appreciate. It is amusing to see another people trying this copying system. We see with half a glance how ludicrous the failure is with them: but while we so easily detect their "mote," we utterly forget the "beam" that closes our own eyes.

Nevertheless, before the Hindus fell so low, their art went through another stage, not unproductive of beauty and elegance, and which might eventually have been elaborated into a style even surpassing their own more ancient forms. This new style is found in the buildings erected under the influence of the Mahomedans, and adopts, to a certain extent, some of the more prominent forms of their architecture.

When the Mahomedans first conquered India they imitated in their earlier mosques not only the details, but even the forms, of the Hindu architects, and their style in that country always bore strongly the impress of the land in which it was elaborated, though still retaining its arches, and a more daring construction than the Hindus had ever attempted. In process of time a complete reaction took place, and in

their secular buildings at least (though scarcely ever in their temples) the Hindus began to adopt the arcades and vaults of their antagonists, using them, however, in their own peculiar fashion, and making what may be called an amalgamation of two styles, rather than a mere copy of one. Even if they had copied from the Mahomedans, it would have been a very different thing from borrowing from another age or another clime that which had become antiquated, or was unsuitable. It was merely the adoption by one part of the inhabitants of a country of those forms which another and more energetic portion of its population had found best suited for their purposes.

1059. Hall in Palace, Madura. From Daniell's 'Views in Hindostan.'

At Beejanuggur there are several examples of this mixed style, erected before that capital was abandoned in the middle of the 17th century. They are wonderfully picturesque, but will not bear examination either as to design or details, and, generally speaking, are executed in rubble masonry covered with stucco—a slovenly method which the Hindus seldom resorted to when using their own styles of architecture.

Further south, one of the most pleasing specimens of this style is a portion of the palace of Madura, commenced by Trimul Naik, and completed by his successors, now utterly fallen to ruin and decay.

The part most illustrative of the new style is the great Hall of Audience, shown in the annexed woodcut (No. 1059); but other parts and other halls shew the same characteristics with more or less distinctness. It is not known by whom this hall was erected; at first sight it might be supposed improbable that the builder of the choultry illustrated above (woodcuts Nos. 1050, 1051) could adopt so different a style in his palace. Innovation, however, in secular affairs, is a totally different thing from novelty in things sacred, in India, as well as elsewhere; and the consequence is, that the change never reached the temples, though common in palaces of the 17th and 18th centuries. I should be inclined to date the hall rather from the beginning of the 18th than in the 17th century; but without seeing it, it is hazardous to venture even a conjecture on such a subject.

To these points I shall have occasion to revert hereafter, when speaking of the styles of the north. In the meanwhile our limits warn us to take leave of a style well deserving of more attention than has hitherto been bestowed upon it. Its historic interest is very great: the buildings to which it gave rise are remarkable for their extent and number. It exhibits also great beauty of detail, especially in the older instances. The grandeur of some of its forms, and the general purpose-like attainment of the ends aimed at, give rise to effects both pleasing and startling, and afford hints well worthy of study by any who desire to master the theory or practice of the art of architecture. Here as everywhere, when a nation labours perhaps through thousands of years to attain a given object, small and mean as the individual efforts may be, the accumulated results attain importance such as no individual capacity ever could realise, and such as can only be reached by the united efforts of thousands exerted through a long series of ages.

CHAPTER IV.

NORTHERN HINDU STYLES.

CONTENTS.

Cuttack Temples — Temples in Upper India — Modern Temples at Bindrabun and Benares — Mixed Hindu style — Tombs — Palaces — Ghâts — Bunds — Wells, &c.

CHRONOLOGY.

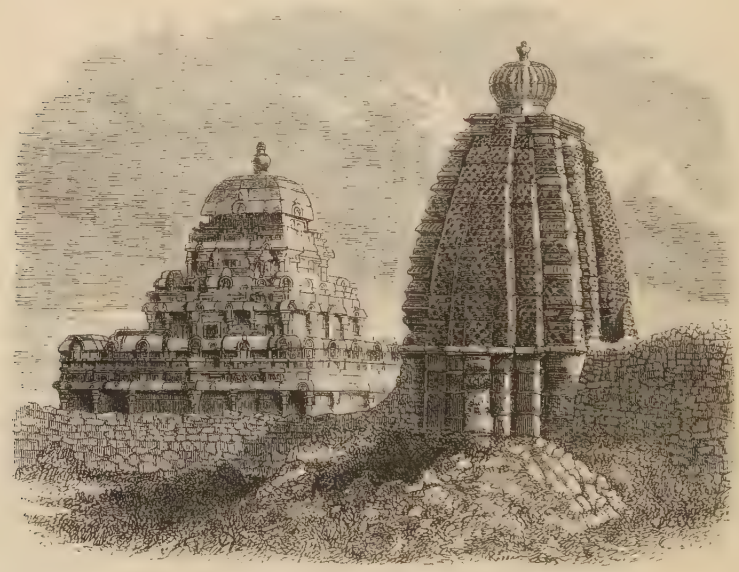
Invasion of Cuttack by strangers coming by sea	A.D. 318	Raja Nursing Deo builds Black Pagoda at Kanarac	A.D. 1236
Lelat Indra Kesari builds temple at Bobaneswar	657	Maun Sing builds temple at Bindrabun	1592
Ananga Bhim Deo builds temple at Juggernath	1174	Amera Sing rebuilds Oudipore	1596
Indra-dyumna cuts caves at Ellora	1176	Jaya Sing builds Jeypore	1698
		Sooraj Mull builds palace at Deeg	1750

INTRODUCTORY.

It is much more difficult to define the position or describe the boundaries of Bengalee art than it was that of the Dravidians. The Northern style nowhere forms a compact architectural province; and the examples are found scattered in detached groups all over Central India, often mixed up with other styles which have either preceded or supplanted it. The principal group of temples erected in this style exists in Orissa, on the boundary between the two provinces. Within a circle of twenty or thirty miles of the celebrated temple of Juggernath there are more and finer examples to be found than in all the rest of India put together. They are also found in the valleys of the Damooda and Mahanuddee rivers, and all across India in the hill countries as far as Dharwar on the western side, and northwards extend into Rajpootana, dotted here and there among the hills; but no temple in the style, of any antiquity, has yet been discovered in the plains of Bengal.

The general appearance of the northern temples and the points of difference between them and those of the south will be appreciated from the annexed woodcut (No. 1060), representing two temples —probably of the 13th century—built in juxtaposition at Badamee in Dharwar. That on the left is a complete specimen of Dravidian architecture. There is the same pyramidal form, the same distinction of storeys, the same cells on each, as we find at Mahavellipore (woodcut No. 1006), at Tanjore (woodcut No. 1045), or at Madura (woodcut No.

1044). In the right-hand temple, the Bengalese, on the contrary, the outline of the pyramid is curvilinear; no trace of division of storeys is observable, no reminiscence of habitations, and no pillars or pilasters anywhere. Even in its most modern form (woodcut No. 1061), it still retains the same characteristics, and all the lines of the pyramid or sikra are curvilinear, the base polygonal. No trace of utilitarianism is visible anywhere. If the last woodcut is compared with that at page 563, the two styles will be exhibited in their most modern garbs, when, after more than 1000 years' practice, they have receded furthest from the forms in which we first meet them. Yet the Madras temple retains the memory of its storeys and its cells. The Bengal example recals nothing known in civil or domestic architecture.

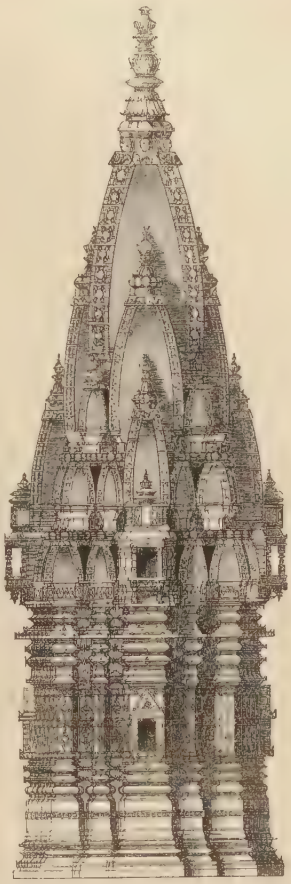


1060. Dravidian and Bengalese Temples at Badamee. From a Photograph.

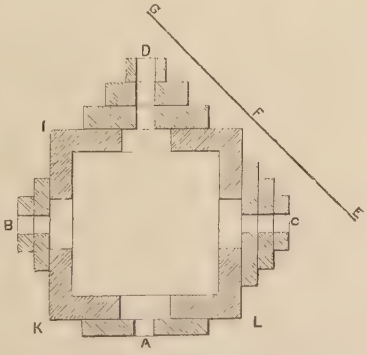
Neither the pyramid nor the tumulus affords any suggestion as to the origin of the form, nor does the tower: either square or circular; nor does any form of civil or domestic architecture. It does not seem to be derived from any of these; and, whether we consider it as beautiful or otherwise, it seems certainly to have been invented wholly for æsthetic purposes, and to have retained that impress from the earliest till the present day.

The plan of a northern temple is always a square internally, and generally the same form is retained in the exterior; but very rarely, if ever, without some addition. In some instances it is only a thin parallel projection, as at A in the diagram (No. 1062). Sometimes it has two such slices added, as at B; but in the oldest examples these are

only half the thickness shewn here. From this they proceeded to three projections, as at C, the oldest examples being the thinnest. In more modern times the thickness of the projections became equal to their distance from each other, as at D; so that the temple became in plan practically a square, the sides of which were parallel to the diagonal of the original square or to the line E F G. Even, however, when this was the case, the cell always retained its original form and direction, and the entrance and windows kept their position on what had thus practically become the angles of the building. This is the case with the temple at Benares, shewn in the woodcut, and generally also with the Jaina temples, as will afterwards be explained more fully in speaking of the architecture of that sect. Although the depth and width of these offsets vary considerably even in the same design, the original square is never lost sight of; the four central angles, as at F, being always larger and more strongly accentuated than the others, and their line is always carried through to the summit of the pyramid.



1061. Modern Temple at Benares.



1062. Diagram Plan of Hindu Temple

It will be observed that by this process we have arrived at the same form or plan for a solid building that was attained by the arrangement of pillars described above, page 556. In fact, the two forms were elaborated simultaneously, and were afterwards constantly used together. My impression is, that the pillared arrangement is the oldest, and led to the deepening of the additions to the solid square till the two became identical in plan. Whether this were so or not, it is one of the most distinguishing features of Hindu architecture.

It is easier, however to describe the northern style than to account for its peculiarities or to trace their origin. In all the other styles described in the previous pages it has always been easy to trace back their forms to some constructive necessity in the materials used, or to some imitation of wooden forms, or copying of domestic or utilitarian peculiarities. None of these exist in the present case. When we first meet it in the 6th or 7th century the style is full grown and complete in all its parts; all utilitarian suggestions have been entirely forgotten and it stands an æsthetic creation—defying investigation into its origin.[1]

The only reasonable conjecture that I have been able to form with regard to the origin of this form of temple is, that it was invented and used by the inhabitants of Northern India before the advent of Buddhism—being Turanians they must have built something—but that when the people of the plains were converted to that religion, in the 3rd century B.C., this form of temple was rejected entirely by the Buddhists, together with the superstition to which they belonged. The new religion, however, never penetrated into the hills; and in their fastnesses the old faith and the old forms of temples still continued to flourish. As Buddhism retired, they advanced again into the plains, and in the 7th or 8th century the temples reappear as old established forms.

At first sight, it may appear to militate against this view that the Buddhist architecture 250 B.C. is so essentially wooden; but this might arise from the fact that the old temples were entirely unsuited to the purposes of the new faith, and they were obliged to have recourse to the assembly halls and civil buildings of the Aryans, which were constructed in wood, for models which might be adapted to the new purposes.

If the style was invented on the plains, that circumstance may explain some of its peculiarities; for there bricks would probably be the ordinary building material, and the form so peculiar in stone loses some of its strangeness. To understand this we must fancy a people without the power of turning an arch, and having no building-material larger than bricks, trying to form a roof for a square apartment, which shall at once be dignified in height and pleasing in outline,

In the very centre of India, near a place marked Adjmeerghur on the map, is a sacred tank from which it is said that the Soane flows to the north, the Mahanuddee to Cuttack in the Bay of Bengal, and the Nerbudda to the Indian Ocean. All these rivers certainly have their

[1] I have lived for years among these temples; I have carefully examined the oldest and the youngest, and watched them for hours, in every varying mood and aspect, always hoping that something would enable me to penetrate their secret, and reveal the mystery of their origin. But in vain. They remain now the most mysterious and the most unaccountable of all the architectural forms I am acquainted with.

sources in the hill. The spot has always been held sacred, and is surrounded by temples—as far as can be gathered from the imperfect accounts available—of great age. On the south and east of this hill extends the great and fertile table-land of Chutteesghur. This is now and has always been, so far as our knowledge extends, one of the principal seats of the native tribes. My conviction is, that if that country and the surrounding valleys could be examined, much older forms of these temples might be discovered—some perhaps so old as to betray the secret of their origin; but till this is done, the Bengalee devala must be relegated—like the Irish round towers[1]—to the category of unexplained architectural puzzles.

[1] Curiously enough they both make their appearance on the stage about the same time. And both then complete and perfect in all their details.

CHAPTER V.

ORISSAN TEMPLES.

CONTENTS.

Black Pagoda at Kanaruc — Temples at Dhumuar, Barrolli, Chandravati, and Benares — Mixed Hindu Style — Palaces — Ghâts — Reservoirs and Dams.

So remote is the province of Orissa, that it is with the greatest difficulty we can glean even such scanty notices of its history as are usually available in Eastern countries. We know, however, from the inscription at Dauli, that Asoka sent thither his missionaries and published his edicts there; and it is evident from the caves on the Udyagiri that Buddhism did exist there from that period till some time after the Christian era. We know also that the famous Tooth relic was preserved in this province up to the beginning of the 4th century in a temple which stood where the far-famed temple of Juggernath now stands.[1] The Vishnava worship there practised seems, in fact, to be only a corrupt Buddhism, so overlaid with local Fetichism as to be scarcely recognisable.

It seems very doubtful whether, in the beginning of the 4th century, the kings of Orissa were Buddhist or Brahmanical—they wavered apparently between the two.[2] About that time the succession was disturbed by an invasion[3] of barbarians, who retained the country for 146 years. After this the original family, or at least the original race, regained power, and it is with them that our architectural history commences.

The earliest authentic building that we have of this race, or indeed of the Hindu religion in Northern India, is the great temple of Bobaneswar, built by Lelat Indra Kesari, A.D. 657; and from this time to the present day the series is tolerably complete, showing a gradual progress of style from the oldest to the most modern—slow, it must be confessed,

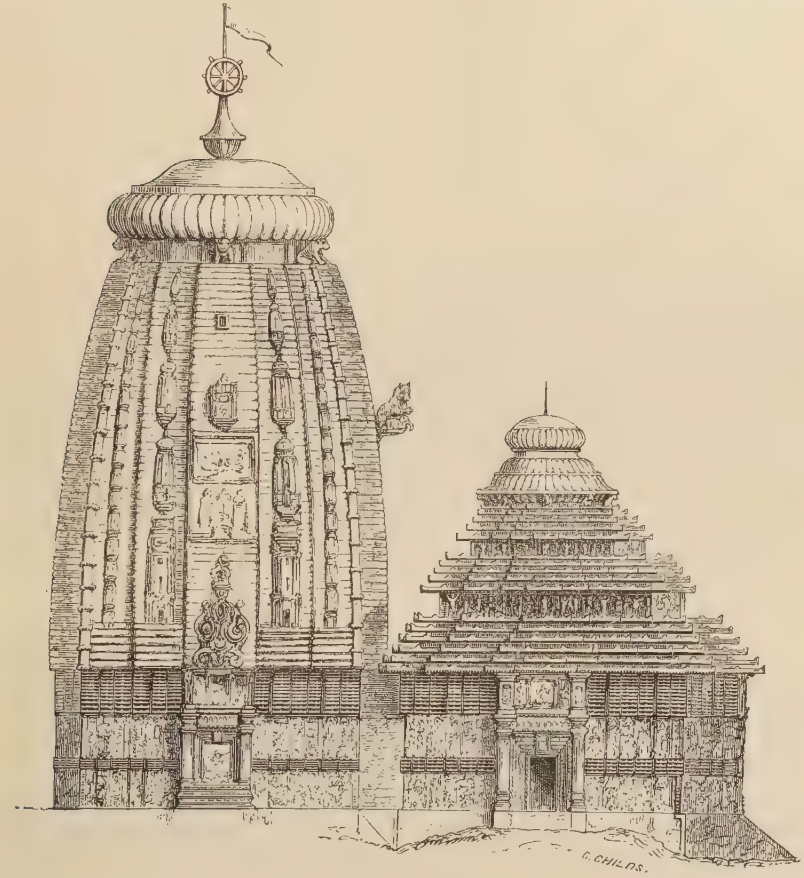
[1] The curious accounts given by Fa Hian in the beginning of the 5th century of the procession of the Tooth from its chapel at Anuradhapoora to Mehentele, and its return after a certain sojourn there, are so exactly transcripts of the annual festival of the Rath Jattra of Juggernath, that there can be no doubt that the latter is merely a copy, a purely Buddhist peculiarity, and not at all belonging to Hinduism. See 'Foe Koui Ki,' pp. 17, 335.

[2] J. A. S. B., vol. vi. p. 856 *et seq.*

[3] 'Asiatic Researches,' vol. xv. p. 263 *et seq.*

but still sufficient to enable a practised eye always to detect at least the century in which any monument was raised.

In and around the deserted city of Bobaneswar there are some eighty or a hundred of these temples of different sizes, and in age extending from the 7th to the 14th century at least. Some may even belong to the present century, though the greater number of them are certainly older;[1] and on the whole here, as elsewhere in India, the oldest are the best.



1063. Restored Elevation of the Black Pagoda at Kanaruc. From a Drawing by the Author. No scale.

Besides the square towers, Orissa also possesses several temples of an oblong form with a long ridge-like roof similar to those found in Lycian tombs (woodcut No. 109), or like the gopuras of Southern India (woodcut No. 1047). In these the entrance is always in the

[1] When I visited Bobaneswar the subject was new to me, and I had had no practice in inferring the dates of Hindu buildings from their styles.

longer side, but I was unable to ascertain how the cell is arranged. The finest of the class at Bobaneswar is that of Kapila Devi;[1] but a similar and finer example exists in the fort at Gwalior, where it is known as the Oilman's Temple, from the profession of its reputed founder. The same form is seen at Mahavellipore (woodcut No. 1006), and may be more common than is now suspected.

The annexed elevation (woodcut No. 1063) will explain the peculiarities of these temples, which are all built nearly on the same plan. They consist in the first place of a great tower or *vimana*, in the centre of which, as in those of Southern India, is the cell, a cubical apartment containing the image. No light is admitted to this except by the door, and this is, in all great temples at least, preceded by a square porch or *mantapa*, with a door on each face; three opening towards the court, one to the cell. Other porches sometimes precede this one, but they are always detached buildings, or, if connected, it is only in a slight or temporary manner.

Some of these towers—such for instance as the great one at Bobaneswar, that of the Temple of Juggernath, built 1198, and the now ruined one of the Black Pagoda, erected in 1241—reached the height of 170 to 180 ft. At Bobaneswar alone more than 100 of these temples still exist, ranging from 50 or 60 ft. to 150 ft.—their proportions being very similar to those of the temple represented in the last woodcut (No. 1063).

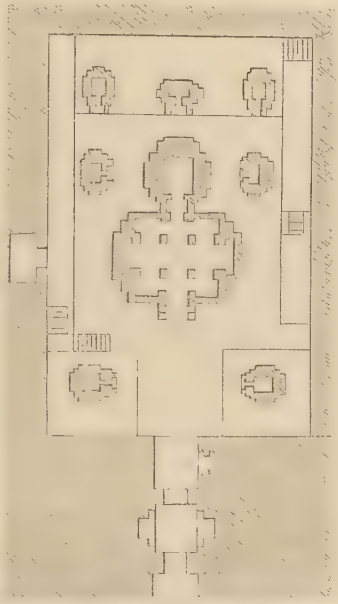
The porches of the great temples are nearly all similar to that of the Black Pagoda—at once the richest and the only one easily accessible to Europeans. It is a square building, about 60 ft. from angle to angle, and the perpendicular part about the same in height. On each face is a projecting doorway very richly ornamented, and the whole walls are covered with sculpture of an elaborate minuteness, only rivalled by that of Boro Buddor, though singularly different in character; this being, as far as the human figures are concerned, obscene in the extreme—while not the remotest trace of anything of the sort can be detected in any Buddhist or Jaina sculpture. Above the perpendicular part rises a roof in three stages, consisting of five or six projecting ledges of stone, the facets of which are all most elaborately carved with processions, or scenes from the chace or agricultural life. Between each series is a range of caryatides, but not a trace of cells, nor of the peculiar ornaments of the south. The whole is crowned by an inverted lotus-like dome-formed termination of singular grace and beauty. Internally it is a plain square apartment, measuring rather more than 40 ft. each way; the roof being formed of projecting stones to about the height of the first series of ledges; here wrought-iron

[1] A view of this temple is given in the 'Picturesque Illustrations of Hindostan,' Plate iv.

beams about 8 in. square were placed across. On them a false ceiling of immense stones laid from side to side, and above this another similar ceiling exists at the next level. It seems also that there was once a lower one, at least the floor is encumbered by a mass of ruins that could not have come from the lower ceiling, which has only partially fallen, though it is difficult to guess how stones of the required length could have been either raised or supported.

Sometimes the porch consists of a small portico of two or more pillars; but this arrangement is only found in the smallest and most modern temples, the style being essentially astylar, or devoid of pillars of any sort.

The great temples are all surrounded by square courts, enclosed by high walls, perfectly plain externally, but internally ornamented no doubt by cloisters or colonnades, the precise character of which it is difficult to determine, as the Orissans are singularly jealous of admitting Europeans to their sacred precincts, while at the Black Pagoda and other desecrated shrines the enclosure has generally disappeared.



1061. Rock-cut Temple at Dhumnar. From a Plan by Gen. Cunningham. Scale 50 ft. to 1 in.

Within these courts are generally ranged a number of smaller shrines, sometimes symmetrically, oftener, as caprice may dictate, or with such differences as age or the wealth of the founder may introduce. The annexed plan of a a rock-cut example belonging to a group of caves in Western India will explain the usual arrangement. In the northern style this temple is the exact counterpart of the Kylas at Ellora. It is inserted among a group of Buddhist caves, to mark the supercession of that religion by that of Vishnu; and in this instance, in conformity with the genius loci, the ninth Avatar of that god is made Buddha himself. The temple is of the usual form of those of the same date—probably the 9th century—and has an enclosed portico with four free standing pillars; around it are seven small detached temples. As will be observed by referring to woodcut No. 1056, these had been more nearly approximated to the Vimana in the Kylas. At Mahavellipore (woodcut No. 1006) they are semi-detached, and afterwards were incorporated in the design. The arrangement of a number

of small temples round one larger one is that found also in Java, at Brambanam (woodcut No. 1028), and elsewhere. It is indeed one of the most characteristic features of the temples of Western India and of all the styles derived from that quarter.

Temples in Upper India.

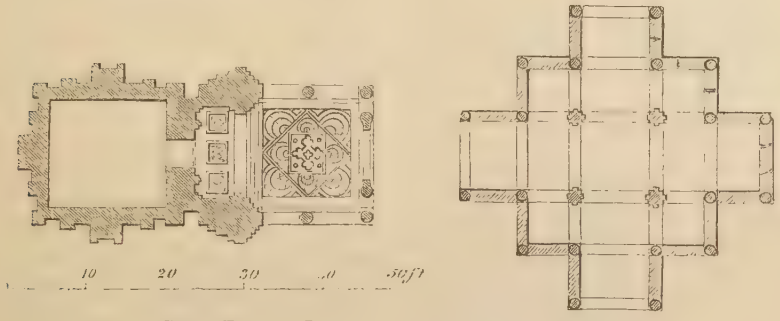
The temples found in the upper provinces of India are all smaller than the great temples of Orissa, and utterly insignificant in size as

1065. Temple at Barrolli. From a Drawing by the Author.

compared with those of Southern India; still they are elegant in design, and, though few in number, are almost the only landmarks we have to guide us through the dark labyrinth of Indian history in the middle ages.

One of the most elegant of these is the now desecrated temple of Barrolli, situated in a wild and romantic spot, near the falls of the Chumbul, whose distant roar in the still night is the only sound that breaks the silence of the solitude around them. The principal temple, represented in the woodcut No. 1065, was erected probably in the 8th

or 9th century, and is one of the few of that age now known which were originally dedicated to Siva. Its general outline is identical with that of the Orissan temples. But instead of the enclosed porch, or *mantapa*, it has a pillared portico of great elegance, whose roof reaches half way up the temple, and is sculptured with a richness and complexity of design almost unrivalled even in those days of patient prodigality of labour. It will be observed in the plan that the dimensions are remarkably small, and the temple is barely 60 ft. high, so that its merit consists entirely in its shape and proportions, and in the elegance and profusion of the ornament that covers it.



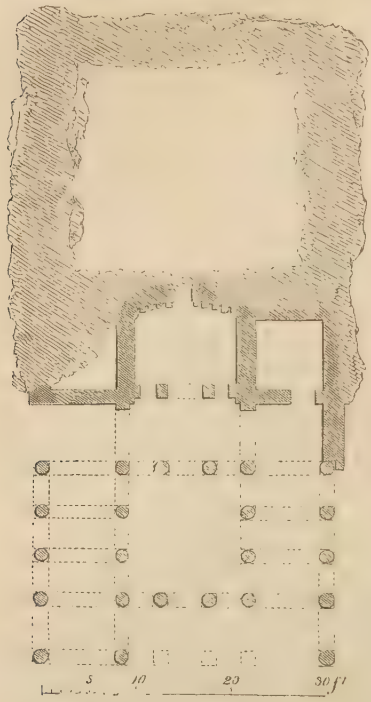
1066. Plan of Temple at Barrolli. From Drawings by the Author.

In front of the temple is a detached porch, here called a Chaöri, or nuptial hall (the same word I believe as Choultry in the south), in which tradition records the marriage of a Hoon (Hun) prince to a Rajpootni bride, for which purpose it is said to have been erected;[1] but whether this is so or not, it is one of the finest examples of such detached halls known in the north. We miss here the octagonal dome of the Jains, which would have given elegance and relief to its ceiling, though the variety in the spacing of the columns has been attained by a different process. The dome was seldom if ever employed in Hindu architecture, but they seem to have attempted to gain sufficient relief to their otherwise monotonous arrangement of columns by breaking up the external outline of the plan of the mantapa, and by ranging the aisles diagonally across the building, instead of placing them parallel to the sides. In one instance at Chandravati, not far from the last described, something more artistic has been attempted, as may be seen by the annexed plan, No. 1067. It is older probably by some centuries than that at Barrolli, and, though sadly ruined, is the most elegant specimen of columnar architecture (so far as I know) in Upper India.[2]

[1] Tod's 'Annals of Rajasthan,' vol. ii. p. 712.

[2] See 'Illustrations of Ancient Architecture in Hindostan,' Plate vi., from which the woodcut is taken. See also Tod's 'Annals of Rajasthan,' vol. ii. His plates are not numbered; the best, however, is the one representing two slabs of the roof of this porch.

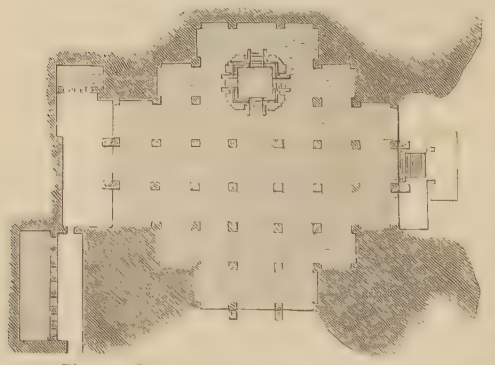
The most elegant part of it is the roof, the central square having been covered with a quasi-dome, on the principle shown in p. 553, the side compartments by large slabs deeply recessed, and covered with sculpture of the most singular elegance.



1067. Temple at Chandravati.

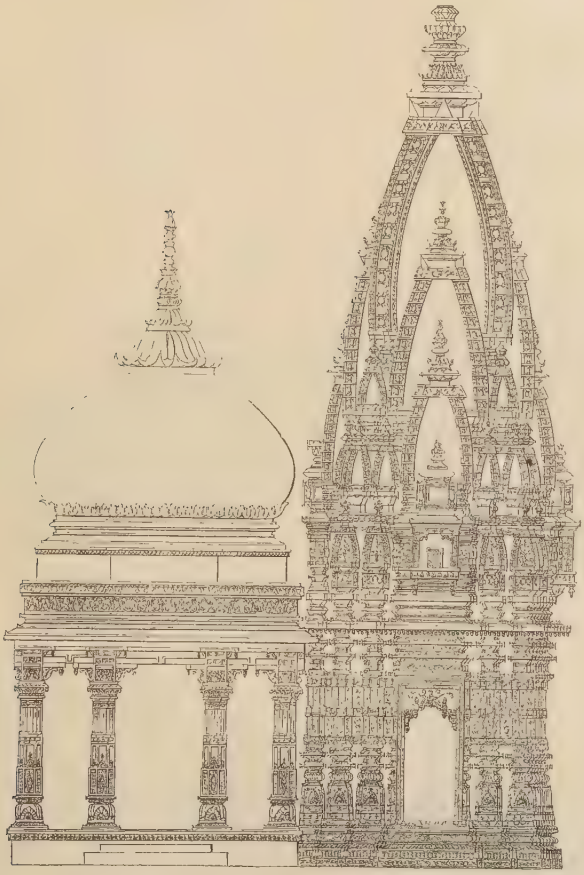
The whole arrangement, however, of this portico may be said to be exceptional—the Barrolli one being by far the most usual—and the same principle is carried to even greater extent in some of the caves. The Dhumnar cave at Ellora (woodcut No. 1068) which closely resembles that at Elephanta in most respects, but is older and finer, is only an amplification of the Barrolli porch. It is 150 ft. in width, and its plan is that of a portico of fifty-two pillars; but being cut in the rock, four are omitted to make way for a vimana, which should have been placed externally, as at Barrolli; for the same reason also twelve of the outside pillars here become pilasters from the nature of the situation in which the temple is placed. It is nevertheless the largest portico of its class I know of, no built example reaching anything like its size.

In modern times, though the temples generally retain something of the same form, yet the tendency is always to make the upper part more slender, and more in the form of a spire than of a tower, and to ornament it by grouping around it smaller models of spires, as we before noticed in speaking of the Pegue Pagoda. This is sometimes carried to such an extent, and with such a minute elaboration of detail, as is almost inconceivable by those who have not seen it. Generally speaking, this profuse ornamentation is so managed, that the details



1068. Dhumnar Lena Cave at Ellora. From Daniell's 'Views in Hindostan.' Scale 100 ft. to 1 in.

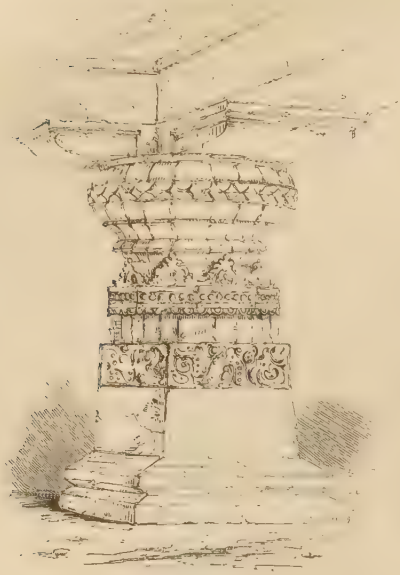
do not interfere with the outline; still their complexity takes away from anything like grandeur or greatness in design; and though some of these temples may deserve to be called the prettiest edifices possible, they can claim no higher merit. Another peculiarity is, that they sometimes in modern times borrow features from Mahomedan architecture, imitating the domes and arcades of that style; but even these very parts are assimilated so completely to their own style, that the amalgamation



1069. Temple of Vishvesher, Benares. From Prinsep's 'Views in Benares.' No scale.

is almost always pleasing. Both these peculiarities are well illustrated in the Vishvesher temple at Benares—the principal one of that famous city, and said to be the oldest, though the present edifice can scarcely number 100 years. Like the temple at Tinnevelly, and many others dedicated to Siva, it is a double temple; the woodcut (No. 1069) represents the plainest side, and omits one-half of the details, which it was impossible to express to such a scale; indeed, it is almost incon-

ceivable how much labour has been expended on a temple whose greatest length is only 47 ft., and greatest height 51 ft.; but such is the characteristic of Indian art at the present day, which does not reach beyond the rank of exquisitely elegant littleness. In former times they went to work in a bolder and manlier style, and with an admirable perception of the proper adaptation of the means to the end, as is observable more especially in some of the rock-cut examples. At Ellora, for instance, in one of the caves cut on the scarp of the Kylas, the pillars are more massive than in our heaviest Norman examples, and are designed with a boldness unmatched in any columnar architecture I am acquainted with, as may be seen from the annexed representation (woodcut No. 1070). In built temples and porticos there was no need for such massive pillars as in the rock-cut examples. Still, at Chandravati, and in the earliest *buildings* generally, the pillars seldom exceed four or five diameters in height. They gradually become more and more attenuated as the style becomes more modern, taking very much the same form as those of the Buddhists and Jains, except that the Hindus use figure sculpture to a greater extent than was usual with the Buddhists at least, as in the annexed example from Barrolli (woodcut No. 1071), where four elegant female figures surrounding the base form the principal ornament of the shaft. This pillar has lost its bracket



1070. Pillar in Kylas, Ellora. From a Drawing by the Author.

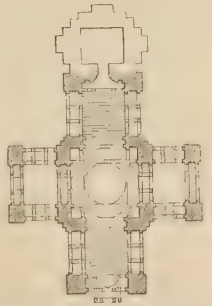
1071. Pillar in Barrolli. From a Plate in Tod's 'Annals of Rajasthan.'

capital, which is the invariable accompaniment of Indian pillars of every age and style, and is, after all, perhaps, the most elegant and appropriate mode of supporting an architrave that has yet been invented by the ingenuity of man.

Mixed Hindu Style.

During the existence of the earlier Pathan dynasties of India, the bigotry of the Mahomedans did not admit of the Hindus erecting temples of any pretension in the great cities over which they had obtained the dominion, and it is only in remote corners of the country that we detect here and there isolated examples of the style. With the beneficent and tolerant reign of the Great Akbar (1556 to 1605), a new era dawned for his oppressed subjects: not only were the Hindus tolerated and employed by him, but some of his most intimate friends and associates were of that religion. Hence, while his own buildings shew a strong tendency to the Hindu style, the Hindus, under his encouragement, erected edifices which display an even greater admixture of the Mahomedan forms of architecture. These it is true were not retained, at least to any great extent, in sacred edifices, but in palaces and civil buildings their adoption was general, and remained permanent, giving rise to a style of perhaps even greater beauty than either had separately displayed.

One of the first and most striking examples of this new state of things was the erection by Maun Sing of Jeypore, the friend and prime minister of Akbar, of a temple at Bindrabun, the porch of which is unique in India, not only on account of the elegance of its outline and details, but from its having a vaulted roof, not constructed of projecting stones, but of true radiating arches like our Gothic vaults.

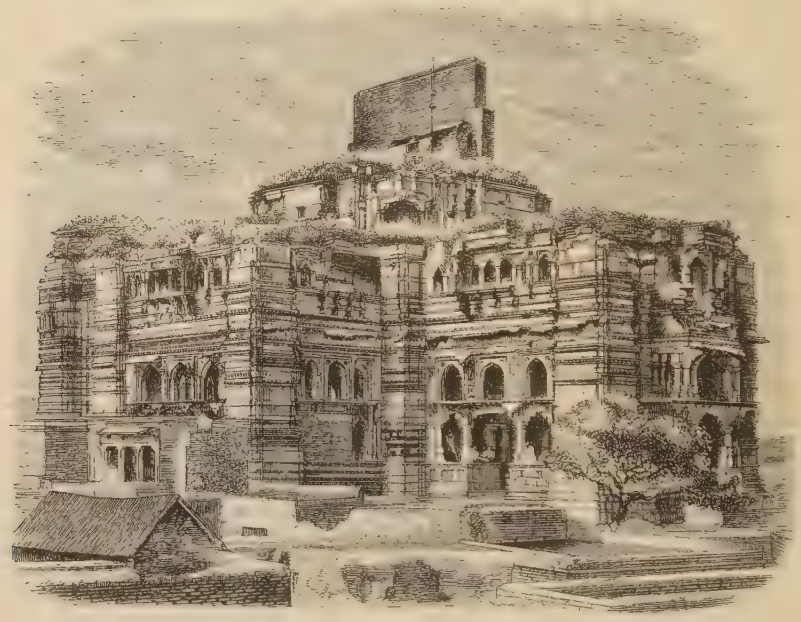


1072. Plan of Temple at Bindrabun. By the Author. Scale 100 ft. to 1 in.

As will be seen from the plan, it is in the form of a cross, 100 ft. north and south by 120 ft. east and west, and almost identical in arrangement with such churches as St. Front, Perigueux, or the Pantheon at Paris. The central compartment (37 ft. square) is covered by a combination of ribbed and domical architecture, producing an effect not inferior to that of any Gothic vaulting I am acquainted with. The nave, to the east and west of the dome, is roofed by a waggon vault of pointed form, richly sculptured all over. The interior is complete and in perfect preservation, but externally (woodcut No. 1073) the building either was never finished, or was allowed to go to premature decay, though it is as remarkable for beauty of design as the interior. The angles are so strongly and effectively accentuated that

the three storeys of windows between them, so far from detracting from the solidity or grandeur of the mass, rather add to its apparent size, and give it a dignity it would not otherwise possess. If the central dome had ever been completed, and if its cornices and other details could be recovered, it would be one of the most picturesque and perfect designs of Akbar's time, and, even in its ruined state, conveys a very favourable impression of the Hindu architecture of that reign.

A number of similar temples were erected in this neighbourhood under the same influence, though none so magnificent nor so splendid as this. Afterwards the direct influence of Mahomedanism gradually died out, and sacred buildings resumed nearly the same form as before,

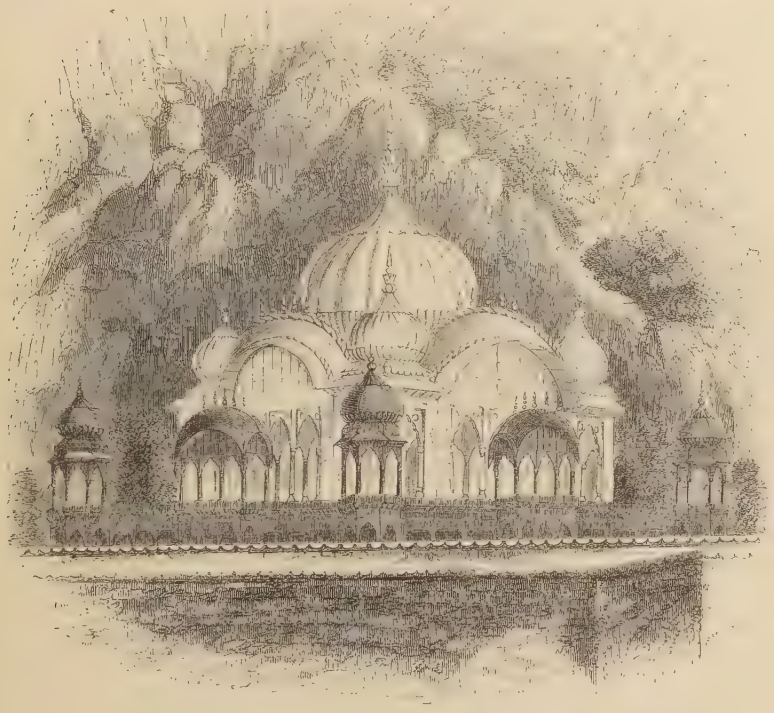


1073. View of Temple at Bindrabun. From a Photograph.

except only with such modifications as those shown in the temple of Vishvesher (woodcut No. 1069), which may be considered as a typical example of the modern temple form of the Hindus. The change, however, was permanent in the general style, and among other things introduced some entirely new forms of edifices utterly unknown among the Hindus before this time. Amongst these the most remarkable are the cenotaphs to the dead, or *Chuttries* as they are called by the Hindus.

To a people who believe in the transmigration of souls, as the Buddhists always did, and the Hindus very generally do, it is of little importance what becomes of its corporeal encasement after the soul

has taken up its new abode; in all ages, therefore, we find the followers of these religions either burning the bodies of the dead, or throwing them into the rivers, or merely exposing them to be devoured by beasts or birds of prey. The Mahomedans, on the contrary, or at least that section of them who invaded India, the Moguls and Tartars, were in all ages pre-eminently a tomb-building race, and by far the most magnificent edifices they have erected in India are the sepulchres of their kings. The Hindus also adopted this practice after the reign of Akbar, at first in their own peculiar fashion, erecting domes



1074. Chuttrie at Alwar. From a Sketch by the Author.

like those of the Jains, on four or eight or twelve pillars, with porticos *ad libitum*, on the spot where the bodies were reduced to ashes. There was this difference between the practice of the Hindus and Mahomedans, that the former were generally content to leave the erection of these monuments to the filial piety of their successors, a practice which has been found singularly inimical to architectural magnificence of this class in most countries, while the great tomb-building nations, such as the Egyptians and Moguls, took care to provide against this, by always erecting their own tombs during their lifetime. One of the most extensive and beautiful collections of these cenotaphs is that of Oudey-

pore, near the sacred fountains, where the Rajas of that race and their wives have been burnt from time immemorial.[1] They are not confined, however, to that locality, but almost every little capital of Rajpootana can point to some monument of the same class, all modern of course, but some of them of great elegance.

Most of these retain their pure Hindu, on rather Jaina forms of columnar architecture. The most modern, however, and those nearest the influence of the great Mahomedan capitals of Agra and Delhi, adopt almost exclusively the arcaded forms of that style of architecture, but strangely enough, without introducing the true arch; every apparent arch being composed of two stones, which are in fact two great brackets meeting one another from the opposite sides, and carved in the form of a foiled arch.

The woodcut (No. 1074), taken from one erected to the memory of the late Raja of Alwar, will explain the general form and appearance of these monuments. The central part is of white marble streaked with black; the terrace and surrounding pavilions of red sandstone. Those of the Bhurtpore Rajas in this neighbourhood are more extensive and more elegant than this, and are built wholly of the fine yellow sandstone of the district in which they stand. But this example appears most characteristic of the modern form of art, and the Bhurtpore style is best exemplified in their palaces, of which more hereafter. We find in this instance a new and remarkable form, which the Hindus introduced, and the Mahomedans afterwards adopted, namely, the curious curvilinear roof of the central compartment. This is peculiar to India, and is copied from the bamboo-roofed huts of the lower provinces, whose elasticity requires them to be bent, that they may have the requisite firmness. In them it is singularly graceful, but it requires long habit to accustom the eye to it in stone. In small examples it is extremely pleasing, though on a large scale it has a strange and quaint appearance that it is almost impossible to get over.

Palaces.

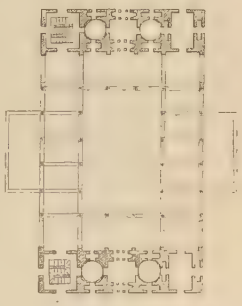
It is not to much in their temples or tombs as in their palaces that the modern Hindus have displayed their architectural magnificence. Every little capital possesses a regal residence of more or less pretension, and every hill-top, in some of the native states, is crowned with hunting seats or summer-palaces. Some of these, such as those of Jeypore and Oudeypore, are of great extent and magnificence; but, large or small, all are designed with that exquisite feeling for grace of outline which characterises the Hindus in all ages, and all are ornamented with that profusion of elaborate detail which extreme cheap-

[1] A view of one of these chuttries is given in my 'Illustrations of Indian Architecture,' Plate xiv.

ness of labour enables them to bestow on their largest as on their smallest works. Among these, by far the most beautiful as an architectural object is the garden-palace of Deeg, erected by Sooraj Mull, the virtual founder of the Bhurtpore dynasty in the middle of the last century. It wants, it is true, the massive character of the fortified palaces of other Rajpoot states, but for grandeur of conception and beauty of detail it surpasses them all.

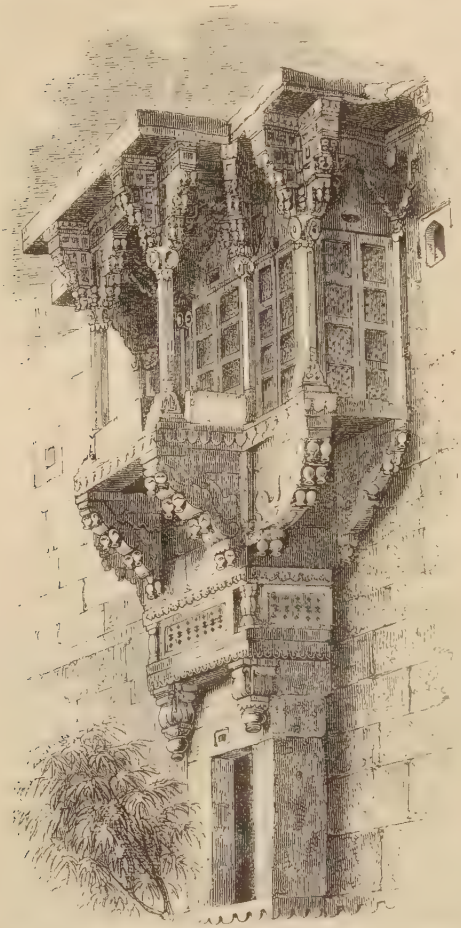
The whole palace was to have consisted of a rectangular enclosure, twice the length of its breadth, surrounded with buildings, with a garden in the centre, divided into two parts by a broad terrace, intended to carry the central pavilion. Only one of these rectangles has been completed, measuring 170 by 120 paces, crossed in the centre by ranges of the most beautiful fountains and parterres, laid out in the formal style of the East, and interspersed with architectural ornaments of the most elaborate finish.

The pavilion on the north side contains the great audience-hall, 76 ft. 8 in. by 54 ft. 7 in., divided in the centre by a noble range of arcades, behind which are the principal dwelling apartments, two, and in some parts three, storeys in height. Opposite this is a pavilion occupied principally by fountains. On one side stands a marble hall attached to an older palace facing the principal pavilion, which was meant to occupy the centre of the garden. As will be seen by the plan, it is a parallelogram of 152 ft. by 87 ft., each end occupied by a small but very elegant range of apartments, in two storeys; the central hall (108 ft. by 87 ft.) is supported on four rows of columns, and open at both sides; at each end is a marble reservoir for fountains, and a similar one exists externally on each side. The whole is roofed with stone, except the central part, which after being contracted by a bold cove, is roofed with a flat ceiling of timber exquisitely carved. This wooden ceiling seems to have been considered a defect, nothing but stone being used in any other part of the palace. The architect therefore attempted to roof the corresponding pavilion of the unfinished court with slabs of stone 34 ft. in length, and 18 in. square. Some of these still exist in their places, but their weight was too great for the arcades, which are only 18 in. thick, and not of solid stone, but of two facings 4 or 5 in. thick, and the intermediate spaces filled in with rubble. Besides this, though the form of the arch is literally copied from the Mahomedan style, neither here, nor elsewhere throughout the palace, is there a single true arch, the openings being virtually covered by two brackets meeting in the centre.



1075. Hall at Deeg. From a Plan by the Author. Scale 100 ft. to 1 in.

The general appearance of the arcades of these buildings may be characterised as more elegant than rich. The glory of Deeg, however, consists in the cornices, which are generally double, a peculiarity not seen elsewhere, and which for extent of shadow and richness of detail surpass any similar ornaments in India, either in ancient or modern buildings. The lower cornice is the usual sloping entablature, almost universal in such buildings. This was adopted apparently because it took the slope of the curtains, which almost invariably hang beneath its projecting shade and which when drawn out seem almost a continuation of it. The upper cornice, which was horizontal, is peculiar to Deeg, and seems designed to furnish an extension of the flat roof, which in Eastern palaces is usually considered the best apartment of the house: but whether designed for this or any other purpose, it adds singularly to the richness of the effect, and by the double shadow affords a relief and character seldom exceeded even in the East.



1076. Balcony at the Conservatory, Benares. From a Drawing by the late James Prinsep.

Generally speaking, the bracket *arcades* of Deeg are neither so rich nor so appropriate as the bold bracket *capitals* of the older styles. That the bracket is almost exclusively an original Indian form of capital can, I think, scarcely be doubted; but the system was carried much further by the Moguls, especially during the reign of Akbar, than it had ever been carried by its original inventors, at least in the North. The Hindus, on receiving it back, luxuriated in its picturesque richness to an extent that astonishes every beholder; and half the effect of most of the modern buildings of India is owing to the bold

projecting balconies and fanciful kiosks that diversify the otherwise plain walls. The accompanying example (woodcut No. 1076), from the observatory erected by Jey Sing (A.D. 1698–1742) at Benares, is a rich and elegant specimen of the style, though hardly so elegant as some of the Moslem examples which are found at Agra, Delhi, and in the neighbourhood of these two capitals. But whether used by Moslems or Hindus, these balconies have a very pleasing effect. They relieve the monotony of the plain face of a building, without interfering with its main lines, or requiring any great constructive skill for its introduction.

Besides the palaces above alluded to, there is the beautiful palace of Maun Sing (1486–1516) in the fort of Gwalior,[1] which exhibits one of the most picturesque combinations of Saracenic with Hindu architecture to be found in India. It is entirely of stone, and carved with a degree of elaboration which is only found in such combinations. There is also the beautiful palace at Ambeer, near Jeypore, built by another Maun Sing, the friend of the great Akbar (1592–1615), and characterised by the richness and originality that is found in all the buildings of that epoch in India. There are also the more modern palaces of Boondee and Alwar, and many others, all displaying that exquisite taste for the picturesque which seems innate in the Rajpoot. They are generally situated on a rocky promontory, with a lake, either natural or artificial, at its base, and they grow out of the rock forms on which they are placed more like natural productions than the work of human hands.

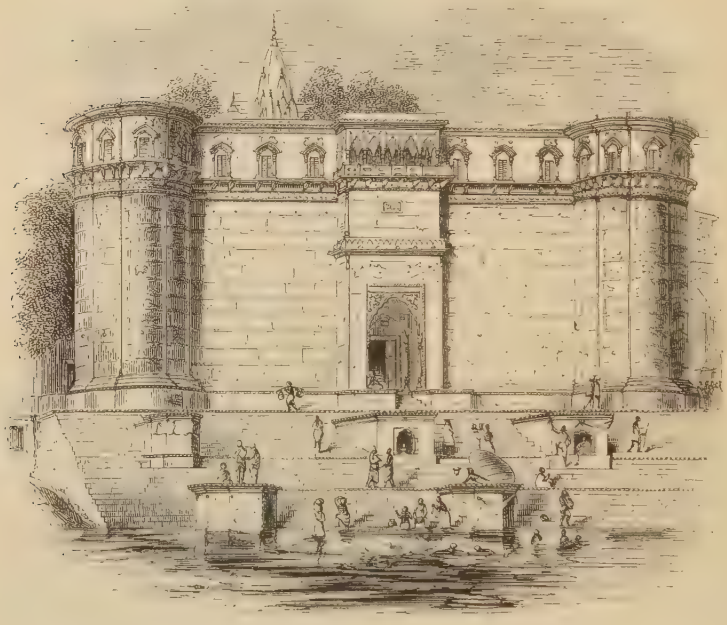
Ghâts or Landing-places.

Another object of architectural magnificence peculiar to northern Hindostan, is the construction of the *ghâts* that everywhere line the river-banks in most of the great cities, more especially those which are situated on the Ganges. Benares possesses perhaps the greatest number of edifices of this class; but from Calcutta to Hurdwar no city is without some specimens of this species of architectural display. The Ghoosla Ghât at Benares (woodcut No. 1077), though one of the most modern, may be taken as a fair specimen of the class, although many are richer and much more elaborately adorned. Their object being to afford easy access to bathers, the flight of steps in front is in reality the *ghât*, and the main object of the erection. These are generally broken, as in this instance, by small projections, often crowned by kiosks, which take off the monotony inherent in long lines of narrow steps. The flight of stairs is always backed by a building, which in most

[1] The principal room in this palace is a square apartment, covered by a dome of exquisite beauty, supported on sixteen columns. The fort has recently come into the possession of the British, and their first act was to appropriate this hall as a cell for drunken soldiers. Probably some Engineer officer has by this time rendered it perfectly suitable for that purpose.

instances is merely an object of architectural display, without any particular destination, except to afford shelter from the rays of the sun to such of the idle as choose to avail themselves of it. When the bank is high, the lower part of these buildings is solid, and when, as in this instance, it is nearly plain, it affords a noble basement to an ornamental upper storey with which they are generally adorned, or to the temple which frequently crowns them.

Though the Ganges is, *par excellence*, the river of ghâts, one of the most beautiful in India is that erected by Ahalya Baiee (Holkar's widow) at Maheswar on the Nerbudda: and Ougein and other ancient cities almost rival Benares in this respect. Indeed, there is scarcely a tank



1077. Ghoosla Ghât, Benares. From Prinsep's Views.

or stream in all India that is without its flight of steps, and it is seldom indeed that these are left without some adornment or some attempt at architectural display, water being always grateful in so hot a climate, and an especially favourite resort with a people so fond of washing and so cleanly in their habits as the Hindus.

RESERVOIRS.

The same fondness for water has given rise to another species of architectural display peculiar to India, in the great reservoirs or *bowlees*,

which are found wherever the wells are deep and water far from the surface. In design they are exactly the reverse of the ghâts, since the steps are wholly below the ground, and descend to the water often at a depth of 80 or 100 ft. Externally they make no display, the only object usually seen above ground being two pavilions to mark the entrance, between which a bold flight of steps, from 20 to 40 ft. in width, leads down to the water. Facing the entrance is a great screen, rising perpendicularly from the water to the surface of the ground, and dividing the stairs from a circular shaft or well, up which the water is drawn by pulleys by those who prefer that mode of obtaining it to descending the steps. The walls between which the steps descend are ornamented by niches, or covered with galleries leading to the great screen. Where the depth is great there is often a screen across the stairs about half-way down.

To persons not familiar with the East such an architectural object as a bowlee may seem a strange perversion of ingenuity, but the grateful coolness of all subterranean apartments, especially when accompanied by water, and the quiet gloom of these recesses, fully compensate, in the eyes of the Hindu, for the more attractive magnificence of the ghâts. Consequently, the descending flights of which we are now speaking have often been made more elaborate and expensive pieces of architecture than any of the buildings above ground found in their vicinity.[1]

Dams.

In the same manner the bunds or dams of the artificial lakes, or great tanks, which are so necessary for irrigation, are often made works of great architectural magnificence, first by covering them with flights of steps, like those of the ghâts, and then erecting in the breaks between these flights, temples or pavilions, and kiosks, interspersed with fountains and statues. Where all these are of marble, as is sometimes the case in Rajpootana,[2] the whole makes up as perfect a piece of architectural combination as any the Hindus can boast of.

It would be tedious, however, to enumerate, without illustrating them, which the limits of this work will not permit, all the modes of architectural magnificence of the Hindus. Like all people untrammelled by rules derived from incongruous objects, and gifted with a feeling for the beautiful, they adorn whatever they require, and convert every object, however utilitarian in its purposes, into an object of beauty. They long ago found out that it is not temples and palaces alone that are capable of such display, but that everything which man

[1] For a view of one at Boondee see 'Picturesque Illustrations of Ancient Architecture in Hindostan,' Plate xvii.

[2] Two specimens of Bunds of this sort are given in the 'Picturesque Illustrations of Indian Architecture,' Plates xii., xiii.

makes may become beautiful, provided the hand of taste be guided by sound judgment, and that the architect never forgets what the object is, and never conceals the constructive exigences of the building itself. It is simply this inherent taste and love of beauty, which the Indians seem always to have possessed, directed by unaffected honesty of purpose, which enables those who are destitute of political independence, or knowledge, or power, to erect, even at the present day, buildings that will bear comparison with the best of those erected in Europe during the middle ages. It must be confessed that it would require far more comprehensive illustration than the preceding slight sketch of so extensive a subject can pretend to, to make this apparent to others. But no one who has personally visited the objects of interest with which India abounds, can fail to be struck with the extraordinary elegance of detail and propriety of design which pervades all the architectural achievements of the Hindus; and this not only in buildings erected in former days, but in those now in course of construction.

CHAPTER VI.

CHALUKYA OR RAJPOOT STYLE.

INTRODUCTORY.

The two great groups just described may fairly be considered to include all the specimens of Hindu art known till very recently to Europeans; applying the term "Hindu" only to temples or buildings dedicated to the worship of Siva and Vishnu, and other gods of that Pantheon, and excluding Buddhism on the one hand and Jainaism on the other.

Recently, however, a third group has been made known to us on the western side of India, more extensive than the northern, though less so than the southern group, but more beautiful than either. At first I felt inclined to designate this new style as the "Rajpoot," as it was practised by that people, and that only, so far as we know, during the period of its prosperity. The principal seat, however, of the Rajpoots at the present day is Rajpootana, and the name would lead to the inference that the style was confined to that country, which is far from being the case. It is the style of Guzerat and Mysore, and the countries lying between these, and is hardly known as existing in Rajpootana Proper. The name Chalukya is therefore adopted as that of the most powerful and widely-disseminated Rajpoot tribe at the time the art was most flourishing, and the one whose families can be most distinctly identified with the most important buildings of the style. The name has also the advantage of being appropriated to no other style of architecture or ethnographic distinction, and may therefore, without any confusion, be applied to the style which the immigrants of the first centuries of the Christian era elaborated in the provinces of Western India in which they settled.

The boundaries of the Chalukya style, as shewn in the map, p. 452, are generally identical with those of the Jaina; the fact being that the Rajpoots were Jainas before their conversion to Hinduism, and they are not all converted at this day. At the extremities of their settlements, near Seringapatam on the south and Delhi on the north, they generally adopted the worship, first of Vishnu and then of Siva, in the 11th or 12th century. But many continued to be followers of the Jaina even then, and for a long time after that; and in their central home in Guzerat they seem hardly ever to have swerved from the Jaina faith. This being the case, it will easily be understood that there is a

great similarity between the Jaina and Chalukya styles in so far as architectural details are concerned. Both being practised by the same people at the same time, it could hardly be otherwise; but the two religions are so essentially different, and the forms of the temples so diverse, that there is never any practical difficulty in the matter.

As there can be little doubt that the Jaina is the older religion, or at all events that the Chalukyans were Jains before they were Hindus, the philosophical mode of treatment would be to take the Jaina style first—and then the Chalukya. There is great convenience, however, in keeping the three Hindu styles together; and at present, at least, the known examples of the one are practically as old as those of the other. Even if the Jaina were first, it has outlasted its rival, and lived on into much more recent times, and may therefore fairly be considered the more modern style of the two.

1078. Pavilion at Belloor. From a Photograph.

The general characteristics of the Chalukya style, as distinguished from the two other styles of Hindu art just described, may be understood from the annexed representation of a small pavilion at Belloor of the 12th century. The pyramid, it will be observed, is conical and straight-sided,[1] the projections—generally sixteen in number—being arranged like the points of a star. In this instance they are divided into four groups of three each by a flat band on each face. The crowning member is not an imitation of the Amalika fruit or any natural object, but purely conventional. The cornices are straight-lined and sloping, the pillars generally without bracket capitals, and the details richer and more elegant than in any other style known in India, not even excepting the Jaina, though some of their temples are marvels of elaboration.

Our knowledge of the history of the Rajpoot races who were the authors of the Chalukya style is unfortunately slight, and may be told in a few words. During the first century before the Christian era, and

[1] If the origin of this form is to be looked for out of India, we must turn to Armenia and the countries south of the Caspian, where conical-ribbed roofs are common and typical of the style.

for 200 or 300 years afterwards, vast hordes of Scythian origin, known to us as Yuechai, White Huns, Sakas, and other names, crossed the Lower Indus into India. They naturally first settled in the fertile plains of Guzerat, but in the course of time pushed their settlements as far north as Ajmeer and Gwalior, and at the time of the Mahomedan invasion Rajpoots were seated on the thrones of Delhi and Canouge. Southward they occupied the whole of the western side of India, as far as the Mysore, which became, under the Bellalas, one of their principal seats.

On the north their architectural remains have almost entirely perished; but this might be expected from the country having been so long and so completely occupied by the Mahomedans. In the centre we only know by hearsay of the buildings about Kalyan and Deoghur (Doulutabad), but in the south we are more fortunate. Their capital, Dwarasamudra (Hullabeed), was taken by the Mahomedans in 1310, and since that time deserted, but its buildings remain; so do the temples of Belloor, Hurunhulli, and various other cities in Mysore and the Dharwar country;[1] and from these we are enabled to judge what the style was, and to appreciate the character of other temples which we know only by description.

[1] In the great folio work on the 'Hindu Architecture of Dharwar and Mysore,' published this year by Mr. Murray, fifty-two plates are devoted to the illustration of the Chalukya style. The reader is referred to this work for more details than can be given in this abstract.

CHAPTER VII.

CHALUKYA STYLE IN MYSORE.

CONTENTS.

Temples of Belloor, Kait Iswara, and of Hullabeed — General Observations.

CHRONOLOGY.

Hoisala Bellala	A.D. 984	Vira Bellala. First convert to Sivite faith, and probable founder of Hullabeed Temple, 1224 (?)	A.D. 1188
Vinaditya Bellala	1043	Vira Narasinha Deva	1233
Yereyanga Bellala	1073	Vira Someswara	1249
Vishnu Verddhana Bellala. Converted from Jaina to Hindu faith by Ram Anuja, founder of Belloor Temple	1114	Vira Narasinha, taken by Mahomedans, and his capital destroyed, in 1310–11	1268
Vijaya Narasinha Bellala. Removed capital to Hullabeed	1145		

The oldest temple we know of in this style in the Mysore is that at Belloor, founded apparently by the fourth king of the Bellala dynasty. As we have neither plans nor dimensions it is impossible to convey any distinct idea of it by words; but photographs shew that it is one of the most exquisite specimens of architecture in India. Its portico is of the usual starlike angular arrangement, the lower part covered with sculpture of extraordinary richness and beauty, while it is closed above by thirty-two windows, each of a single slab pierced with tracery of the most beautiful patterns, and each differing from the other in design. Its vimana or tower has been so altered and so whitewashed that it is difficult to say what its original form may have been, though it would be interesting to know, as its date is early. Probably it resembled the little pavilion (woodcut No. 1078) which flanks one of the stairs leading up to the entrance of the porch.

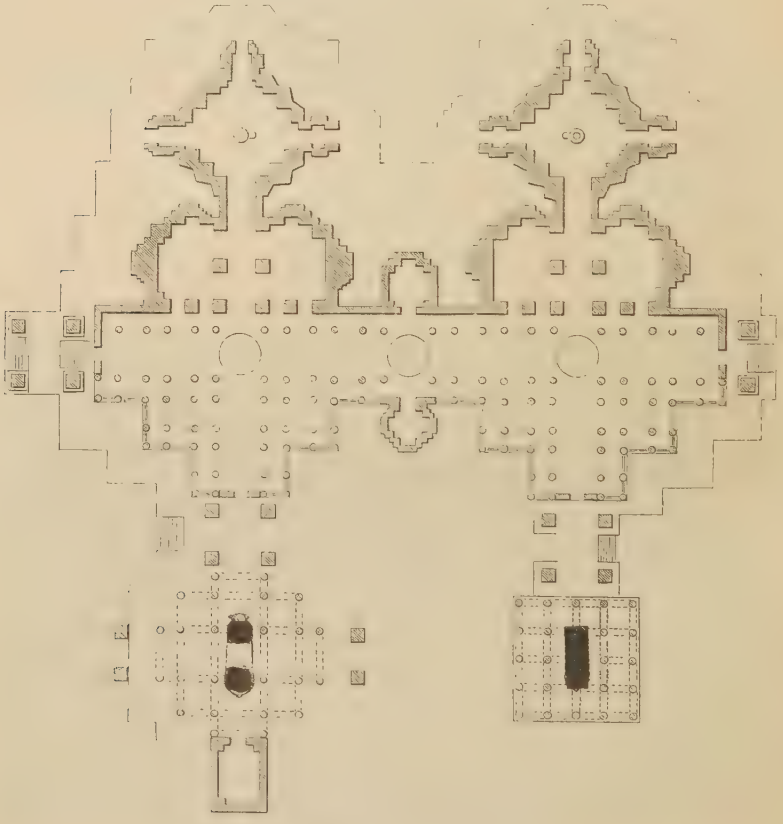
Near Hullabeed is a small detached temple known by the inexplicable name of Kait Iswara, dedicated to Siva, and probably erected by Vijaya, the fifth king of the Bellala dynasty. Its general appearance will be understood from the annexed woodcut No. 1079. It is star-shaped in plan, with sixteen points, and had a porch, now so entirely ruined and covered up with vegetation, that it is difficult to make out its plan. Its roof is conical, and from the basement to the summit it is covered with sculptures of the very best class of Indian art, and these so

arranged as not materially to interfere with the outlines of the building, while they impart to it an amount of richness only to be found among specimens of Hindu art.[1] If it were possible to illustrate this little temple in anything like completeness, there is probably nothing in India which would convey a better idea of what its architects were capable of accomplishing.

1079. Kait Iswara, Hullabeed. From a Photograph by Capt. Tripe.

[1] In a very few years this building will be entirely destroyed by the trees, which have fastened their roots in the joints of the stones. A very small sum would save it; and, as the country is ours, it is hoped that the expenditure will not be grudged.

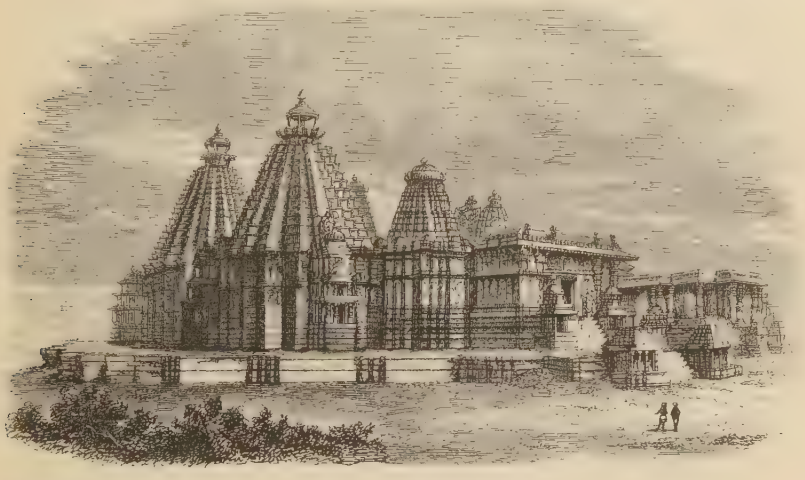
It is, however, surpassed in size and magnificence by its neighbour, the great temple at Hullabeed, which, taking it altogether, is perhaps the building on which the advocate of Hindu architecture would desire to take his stand. Unfortunately it never was finished, the works having been stopped by the Mahomedan conquest in 1310, after they had been in progress apparently for eighty-six years. It is instructive to observe that the single century that elapsed between the execution of the sculpture of the Kait Iswara and of this temple, was sufficient to demonstrate the decay in style which we have already noticed as an inherent characteristic of Indian art. The sculptures of Hullabeed are inferior to those of Kait Iswara, and those of that temple, again, to those at Belloor.



1080. Plan of Temple at Hullabeed.[1] Scale 50 ft. to 1 in.

[1] This plan is to be depended upon only within certain limits. It is compiled wholly from photographs, and represents correctly the outline outside; but the interior is doubtful, there being no photograph of it. The scale is obtained from a drawing in the Mackenzie MSS., and may probably be depended upon.

The general arrangements of the building are given on the annexed plan (woodcut No. 1080), from which it will be perceived that it is a double temple. If it were cut into halves, each part would be complete, with a shrine for the bull Nundi, a pillared porch of the same type as that at Belloor, above referred to, an anterala or intermediate porch, and a sanctuary containing a lingam, the emblem of Siva. Such double temples are by no means uncommon in India, but the two sanctuaries usually face each other, and have the porch between them. Its dimensions may roughly be stated as 200 ft. square over all, including all the detached pavilions. The temple itself is 160 ft. north and south by 122 east and west. Its height, as it now remains, to the cornice is about 25 ft. from the terrace on which it stands. It cannot, therefore, be considered by any means as a large building,



1081. Restored View of Temple at Hullabeed.

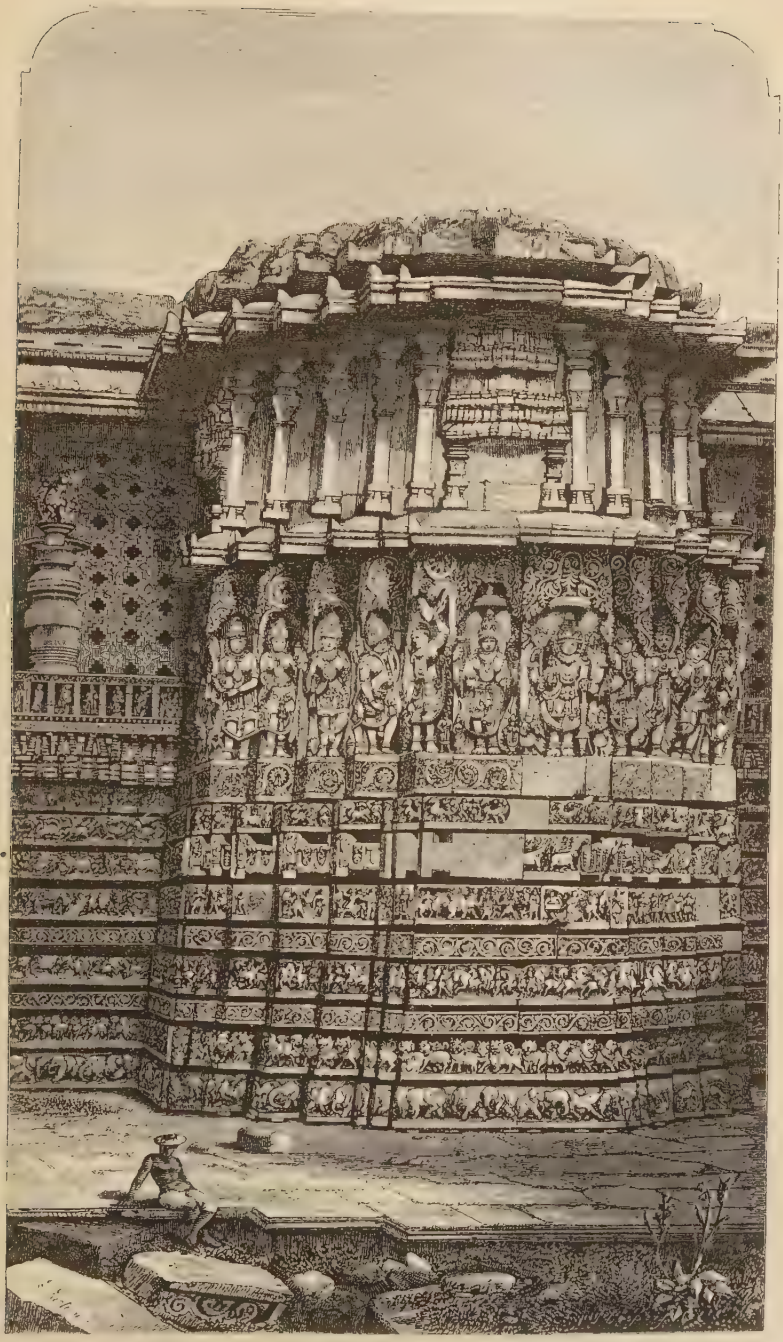
though large enough for effect. This, however, can hardly be judged of as it now stands, for there is no doubt but that it was intended to raise two pyramidal spires over the sanctuaries, four smaller ones in front of these, and two more, one over each of the two central pavilions. Thus completed, the temple would have assumed something like the outline shewn in the woodcut (No. 1081), and if carried out with the richness of detail exhibited in the Kait Iswara (woodcut No. 1079) would have made up a whole which it would be difficult to rival anywhere.

The material out of which the temple is erected is an indurated potstone, of volcanic origin, found in the neighbourhood. This stone is said to be soft when first quarried, and easily cut in that state, though hardening on exposure to the atmosphere. Even this, however, will not diminish our admiration of the amount of labour bestowed on the

temple, for, from the number of parts still unfinished, it is, evident that, like most others of its class, it was built in block, and carved long after the stone had become hard. As we now see it, the stone is of a pleasing creamy colour, and so close-grained as to take a polish like marble. The pillars of the great Nundi pavilion, which look as if they had been turned in a lathe, are so polished as to exhibit what the natives call a double reflection—in other words, to reflect light from each other. The enduring qualities of the stone seem to be unrivalled, for though neglected and exposed to all the vicissitudes of a tropical climate for more than six centuries, the minutest details are as clear and sharp as the day they were finished. Except from the splitting of the stone arising from bad masonry, the building is as perfect as when its erection was stopped by the Mahomedan conquest.

It is of course impossible to illustrate so complicated and so varied a design; but the woodcut on the opposite page will suffice to explain the general ordonnance of its elevation. The building stands on a terrace ranging from 5 to 6 ft. in height, and paved with large slabs. On this stands a frieze of elephants following all the sinuosities of the plan and extending to some 710 ft. in length, and containing not less than 2000 elephants, most of them with riders and trappings, sculptured as only an Oriental can represent the wisest of brutes. Above these is a frieze of "shardalas" or conventional lions—the emblems of the Hoisala Bellalas who built the temple. Then comes a scroll of infinite beauty and variety of design; over this a frieze of horsemen and another scroll; over which is a bas relief of scenes from the Ramayana, representing the conquest of Ceylon and all the varied incidents of that epic. This, like the other, is about 700 ft. long. (The frieze of the Parthenon is less than 550 ft.) Then come celestial beasts and celestial birds, and all along the east front a frieze of groups from human life, and then a cornice, with a rail, divided into panels each containing two figures. Over this are windows of pierced slabs like those of Belloor, though not so rich or varied. These windows will be observed on the right and left of the woodcut. In the centre, in place of the windows, is first a scroll and then a frieze of gods and heavenly apsaras, dancing girls, and other objects of Hindu mythology. This frieze, which is about 5 ft. 6 in. in height, is continued all round the western front of the building, and extends to some 400 ft. in length. Siva, with his consort Parvati seated on his knee, is repeated at least fourteen times; Vishnu in his nine Avatars even oftener. Brahma occurs three or four times, and every great god of the Hindu Pantheon finds his place. Some of these are carved with a minute elaboration of detail which can only be reproduced by photography, and may probably be considered as the most marvellous exhibition of patient human labour that the world ever produced.

It must not, however, be considered that it is only for patient



1082 Central Pavilion, Hullabeed, East Front. From a Photograph.

industry that this building is remarkable. The mode in which the eastern face is broken up by the larger masses, so as to give height and play of light and shade, is a better way of accomplishing what the Gothic architects attempted by their transepts and projections. This, however, is surpassed by the western front, where the variety of outline, and the arrangement and subordination of the various facets in which it is disposed, must be considered as a masterpiece of design in its class. If the frieze of gods were spread along a plain surface it would lose more than half its effect, and the vertical angles, without interfering with the continuity of the frieze, give height and strength to the whole composition. The disposition of the horizontal lines of the lower friezes is equally effective. Here again the artistic combination of horizontal with vertical lines, and the play of outline and of light and shade, far surpass anything in Gothic art. The effects are just what the mediæval architects were often aiming at, but they never attained them so perfectly as was done at Hullabeed.

If it were possible to illustrate the Hullabeed temple to such an extent as to render its peculiarities familiar, there would be few things more interesting or more instructive than to institute a comparison between it and the Parthenon at Athens. Not that the two buildings are at all like one another: on the contrary, they form the two opposite poles—the alpha and omega of architectural design: but they are the best examples of their class, and between these two extremes lies the whole range of the art. The Parthenon is the best example we know of pure refined intellectual power applied to the production of an architectural design. Every part and every effect is calculated with mathematical exactness, and executed with a mechanical precision that never was equalled. All the curves are hyperbolas, parabolas, or other developments of the highest mathematical forms—every optical defect is foreseen and provided for, and every part has a relation to every other part in so recondite a proportion that we feel inclined to call it fanciful, because we can hardly rise to its appreciation. The sculpture is exquisitely designed to aid the perfection of the masonry—severe and godlike, but with no condescension to the lower feelings of humanity.

The Hullabeed temple is the opposite of all this. It is regular, but with a studied variety of outline in plan, and even greater variety in detail. All the pillars of the Parthenon are identical, while no two facets of the Indian temple are the same; every convolution of every scroll is different. No two canopies in the whole building are alike, and every part exhibits a joyous exuberance of fancy scorning every mechanical restraint. All that is wild in human faith or warm in human feeling is found portrayed on these walls; but of pure intellect there is little—less than there is of human feeling in the Parthenon.

It would be possible to arrange all the buildings of the world between these two extremes, as they tended toward the severe intel-

lectual purity of the one, or to the playful exuberant fancy of the other; but perfection, if it existed, would be somewhere near the mean. My own impression is, that if the so-called Gothic architects had been able to maintain for two or three hundred years more the rate of progress they achieved between the 11th and the 14th century, they might have hit upon that happy mean between severe constructive propriety and playful decorative imaginings which would have combined into something more perfect than the world has yet seen. The system, however, as I have endeavoured to point out, broke down before it had acquired the requisite degree of refinement, and that hope was blighted never to be revived. If architecture ever again assumes an onward path, it will not be by leaning too strongly towards either of the extremes just named, but by grasping somewhere the happy mean between the two.

For our present purpose, the great value of the study of these Indian examples is that it widens so immensely our basis for architectural criticism. It is only by becoming familiar with forms so utterly dissimilar from those we have hitherto been conversant with, that we perceive how narrow is the purview that is content with one form or one passing fashion. By rising to this wider range we shall perceive that architecture is as many-sided as human nature itself, and learn how few feelings and how few aspirations of the human heart and brain there are that cannot be expressed by its means. On the other hand, it is only by taking this wide survey that we appreciate how worthless any effort of architectural art becomes which does not honestly represent the thoughts and feelings of those who built it, or the height of their loftiest aspirations.

CHAPTER VIII.

JAINA.

CONTENTS.

Definition of Jainism — Temples on Mount Abu — Temples of Somnath, Chandravati, and Sadree — Towers at Chittore.

CHRONOLOGY.

Parswanath, 23rd Tirthankar, about	B.C. 800	Munja of Ougein	A.D. 933
Mahavira, 24th and last Tirthankar (co-temporary and preceptor of Gautama Buddha), died about	600	Bhoja of Ougein, about	1000
		Kumara Pala of Guzerat converted	1174
		Temples on Mount Abu	1032–1231
Amogaversha, King of Conjeveram: revival of Jaina religion by Jina Sena Acharya.	9th century A.D.	Khombo Rana of Merwar, built temple at Sadree, and pillar at Chittore	1418
		Udaya Sinh, third sack of Chittore by Akbar	1580

If there be difficulty in explaining the peculiarities of Buddhist and Hindu architecture, from the ignorance that necessarily exists regarding forms of religion so little familiar to most persons in this country, there is even more when we come to speak of the Jaina religion. For this we have no materials except occasional papers in the Transactions of learned Societies: and even that information is so scanty, and the results so inconclusive, that it is almost impossible to make out either the nature or origin of the religion. It is certain that it rose to importance only on the decline of Buddhism; and that it in many respects resembles that system. Still the Jains entirely reject and ignore the prophet who gave his name to Buddhism, and who impressed thereon its present form and character as distinctly as Mahomet gave its character to the faith that bears his name.

The Jains reject entirely Sakya Sinha and his doctrines, but worship twenty four saints, or Tirthankars as they are called, who are said to have lived in India, succeeding one another at considerable and sometimes fabulous intervals. The list closes with Parswanath and Mahavira: the last of whom is admitted by both sects to have been the preceptor and friend of Buddha, dying about 600 years before Christ; the former 250 years earlier. These two are the saints now principally worshipped, and indeed the only ones who, in the present state of our knowledge, can be considered as really historical personages.

The most probable hypothesis seems to be that a form of Buddhism

did exist in India from the earliest ages, that Sakya Sinha was a reformer, not of the Brahminical religion, or of anything connected with it, but of this old antecedent Buddhism. In process of time his religion perished of innate decay, sinking under the burthen of its own immense and overgrown priesthood. An attempt was then made to restore the old faith, by reviving a reverence for the pre-existing teachers, and totally ignoring the reform and its consequent monasticism, and the result of this revival was Jainism. The reform was attempted, however, at an age when the purer traditions of the old faith must have been either wholly lost or very much obscured, and when Hinduism was competing for the favour of the vulgar to an extent it was impossible to overlook. It became in consequence not a purer and more exalted faith, but a mixture of superstition and idolatry, such as Buddhism had never sunk into in its most degraded days. Still it got rid of the priesthood, and of the unintelligible mass of metaphysical and other treatises which crushed that religion; and, in consequence, it still flourishes side by side with Hinduism in most parts of India, while Buddhism is wholly extinct in the land where it first was propagated.

It may, however, be that we must look for the origin of both these religions to some spot external to India Proper. It may be that Buddhism was originally a religion of the Tartar tribes beyond the Himalayas, as it is now, before it was introduced into the Valley of the Ganges; and it may be that when the Scythians crossed the lower Indus in the first centuries of our era they brought the seeds of the Jaina religion with them. We are very far, however, from having the knowledge requisite for deciding such questions as these, though it is useful to allude to them, in order to point out the direction the investigation must probably pursue in order to arrive at any satisfactory result.

The principal seats of the Jains at present are either in Guzerat or in the Mysore, where libraries are said to exist, which if explored could could not fail to throw much light on the subject. Even this is doubtful, and must remain so till the books are seen; but there does exist, in both these and the surrounding countries, a numerous class of Jaina temples, and other buildings, which, if properly examined, would settle most of the disputed points of their history, in so far as they belong to historical times. So little, however, is known of these buildings, that few historical deductions can be obtained from them, and, so far from their lending any light to the subject, we do not even know the history of the style itself, but must be content with describing the architecture as we find it at the culminating point of its perfection, and the most brilliant period of Jaina history, between the 10th or 13th centuries of our era.

It seems at this period to have stood between declining Buddhism on the one hand, and rising Hinduism on the other, the temporary

mistress of the greater part of India, extending its influence from Guzerat, its principal seat, to Delhi on the one hand, and to near Cape Comorin on the other. Thus it remained till the Indians were robbed of their independence by the Mahomedan invaders, when they lost even this purer faith, and sank by degrees into the depth of that monstrous superstition known at present as the Hindu religion.

The oldest Jaina monuments now known to exist are probably those about Junaghur in Guzerat, and the temple at Somnath, against which Mahmoud, the Gaznavide, directed his famous campaign in the year 1025. A short account of it is given by Colonel Tod, in his Travels in Western India; and a view published by Captain Postans enables us to ascertain that it is a fifty-six-pillared portico, like the one represented in woodcut No. 1043, with a central and four angular domes, but not remarkable either for its size or its beauty. It is now converted into a mosque, and considerably spoilt in the process.

Some of those about Ahmedabad appear also to be of considerable antiquity; none of them, however, have yet been visited by any one who knew how to distinguish between old and new, or who could even ascribe to each religion what fairly belonged to it. Such classification must therefore be reserved for future explorers. The oldest temples I myself have seen are those on Mount Abu in Guzerat, a noble mountain of granite between 5000 and 6000 feet in height, and rising from the sandy desert in which it stands as abruptly as an island from the ocean.

On this hill are several Jaina temples of considerable beauty and extent, two pre-eminently so, being built of white marble, and ornamented with all the resources of Indian art of the age in which they were erected. The more modern of the two was built by two brothers, rich merchants, between the years 1197 and 1247, and for delicacy of carving and minute beauty of detail stands almost unrivalled even in this land of patient and lavish labour.[1]

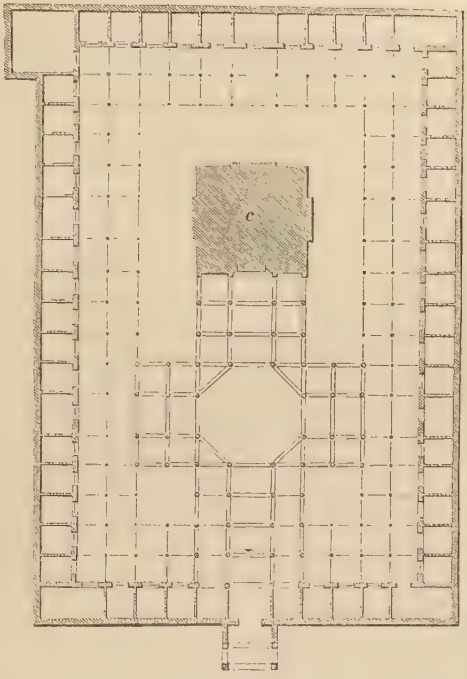
The other, built by another merchant prince, Vimala Sah, apparently about the year A.D. 1032,[2] is simpler and bolder, though still as elaborate as good taste would allow in any purely architectural object. Being one of the oldest as well as one of the most complete examples known, a description of its peculiarities will form a convenient introduction to the style, and among other things will serve to illustrate how complete and perfect it had already become before we meet it in India. Some eight or nine centuries had elapsed between the erection of the tomb at Mylassa (woodcut No. 233) and this temple, and it would have required all that time, even if devoted to the most con-

[1] A view of this temple, not very correct, forms the title-page to Col. Tod's 'Travels in Western India.'

[2] See 'Illustrations of Indian Architecture,' by the Author, p. 39, from which work the plan and view are taken.

tinuous labour, to perfect such a transformation; but where are the intermediate examples? Though not one has yet been brought to light, they exist: their discovery will certainly reward the first person who looks for them.

The annexed plan of the temple of Vimala Sah will suffice to explain the general arrangements of this class of buildings, which are all tolerably similar, though of course varying considerably in extent.



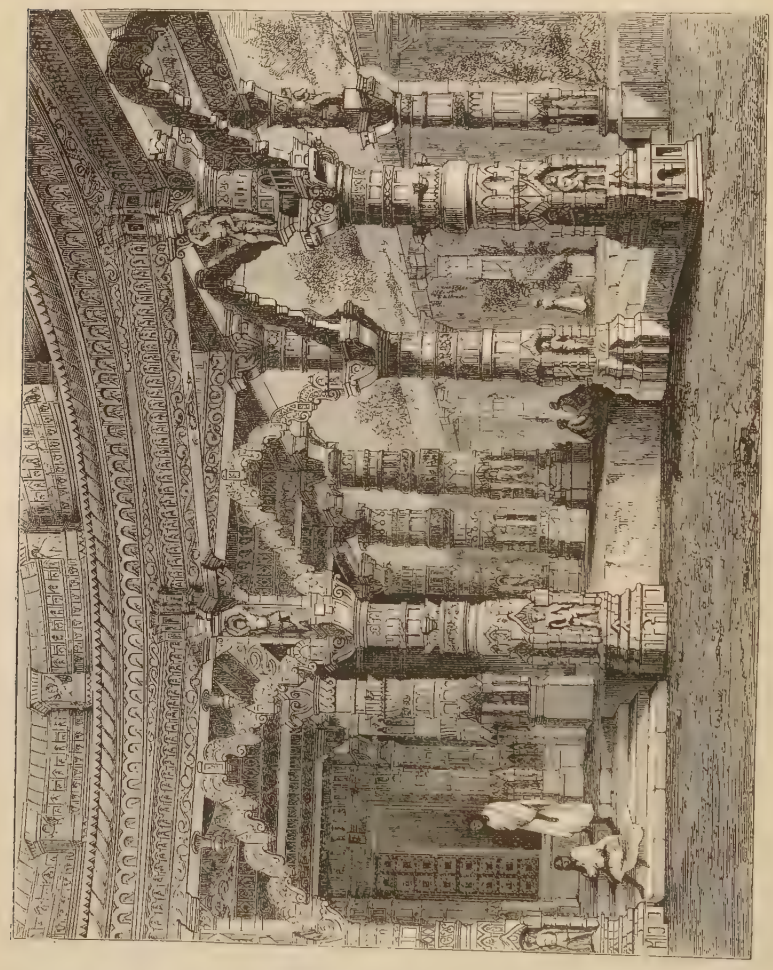
1083. Temple of Vimala Sah, Mount Abu. From a Plan by the Author. Scale 50 ft. to 1 in.

The principal object here, as elsewhere, is a cell lighted only from the door, containing a cross-legged seated figure of the saint to whom the temple is dedicated, in this instance Parswanath. The cell is always terminated upwards by a pyramidal spire-like roof, somewhat similar to those of the numerous little temples of Brambanam in Java,[1] but more like the Hindu temples of the same age, described in the last chapter. To this is always attached a portico, generally of considerable extent, and in most instances surmounted by a dome resting on eight pillars, which forms indeed the distinguishing characteristic of the style, as well as its most beautiful feature. In this example the portico is composed of forty-eight pillars, which is by no means an unusual number; and the whole is enclosed in an oblong court-yard, about 140 ft. by 90 ft., surrounded by a double colonnade of smaller pillars, forming porticos to a range of cells, fifty-five in number, which enclose it on all sides, exactly as they do in a Buddhist vihara. In this case, however, each cell, instead of being the residence of a monk, is occupied by one of those cross-legged images which belong alike to Buddhism and Jainism, between which many find it so difficult to distinguish. Here they are, according to the Jaina practice, all of Pars-

[1] See p. 538.

wanath, and over the door of each cell, or on its jambs, are sculptured scenes from his life.

As before remarked, in speaking of Brambanam in Java, this duplication of the same object is one of the most marked characteristics of Jaina architecture, or at all events of that mixture of Buddhism and Hinduism which is found in Java, and so much resembles it. In other



1084. Temple of Vimala Sah, Mount Abu. From a Sketch by the Author.

religions there may be a great number of separate similar chapels attached to one building, but in no other would fifty-five be found, as in this example, each containing an image of the same saint, and all so identical as to be undistinguishable. At Brambanam there were 238. There, it is true, they were detached one from the other; but this does not seem to be considered as an important feature. It seems only to be

thought important that the deity or saint is honoured by the number of his images, and that each image should be provided with a separate abode. In other examples, however, it is only a separate niche. On some Jaina monuments the image of the Tirthankar is repeated hundreds, I may almost say a thousand times over, all the images identical, and the niches arranged in rows beside and above each other, like pigeon-holes in a dovecote.

Externally the temple is perfectly plain, and there is nothing to indicate the magnificence within, except the spire of the cell peeping over the plain wall, though even this is the most insignificant part of the erection.

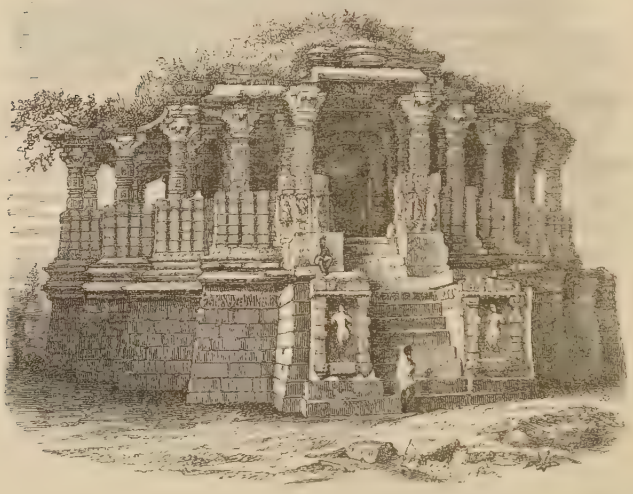
The woodcut No. 1084 will give some idea of the arrangement of the porch, but it would require a far more extensive and elaborate drawing to convey a correct impression of its extreme beauty of detail and diversity of design. The great pillars, as will be seen, are of the same height as those of the smaller external porticos; and like them they finish with the usual bracket-capital of the East; upon this an upper dwarf column or attic, if it may be so called, is placed to give them additional height, and on these upper columns rest the great beams or architraves which support the dome; as, however, the bearing is long, at least in appearance, the weight is relieved by the curious angular strut or truss of white marble, mentioned above, page 554, which, springing from the lower capital, seems to support the middle of the beam.

That this last feature is derived from some wooden or carpentry original, can, I think, scarcely be doubted; but in what manner it was first introduced into masonry construction is unknown: probably it might easily be discovered by a more careful examination of the buildings in this neighbourhood. It continues as an architectural feature down almost to the present day, but gradually becoming more and more attenuated, till at last it loses all its constructive significance as a supporting member, and dwindles into a mere ornament.

On the octagon so formed rests the dome; the springing of which is shown in the last woodcut. In this instance a single block in the angles of the octagon suffices to introduce the circle. Above the second row of ornaments sixteen pedestals are introduced supporting statues, and in the centre is a pendant of the most exquisite beauty; the whole is in white marble, and finished with a delicacy of detail and appropriateness of ornament, which is probably unsurpassed by any similar example to be found anywhere else. Those introduced by the Gothic architects in Henry VII.'s chapel at Westminster, or at Oxford, are coarse and clumsy in comparison.

The general external appearance of these Jaina porches will be understood from the annexed view of one at Amwah near Ajunta. As will be observed, this is one of those 56-pillared porches so usual

in the style (woodcut No. 1043), and so characteristic of its arrangements. As is generally the case when used alone, it is raised on a lofty stylobate, and crowned by a pyramidal roof, which hides externally the curvilinear form of the dome. Their greatest charm, however, is the brilliancy of light and shade which is obtained, as previously pointed out, by the different facets of the sides, and which never could be attained by any straight-lined arrangement we are acquainted with.



1085. Porch of Jain Temple at Amwah, near Ajunta. From a Photograph by Major Gill.

At Chandravati, a few miles to the south of Mount Abu, there are many remains of Jaina temples and other edifices of great beauty. The place, however, was destroyed at the time of the Mahomedan conquest in the middle of the fourteenth century, and has since remained wholly deserted. It has in consequence been used as a quarry by the neighbouring towns and villages, so that few of its buildings remain in a perfect state.

The style may be judged of by the annexed view of two pillars from among the many found there. Their form is nearly that of the temples on Mount Abu, and their age we know to be nearly the same—if anything somewhat more modern.

These temples were surpassed in extent, if not in beauty of design, by that at Sadree, erected by Khumbo Rana of Oudeypore between the years 1418 and 1468. He seems to have been a zealous promoter of this faith, and during his long and prosperous reign filled his country with beautiful buildings, both civil and ecclesiastical. Amongst others

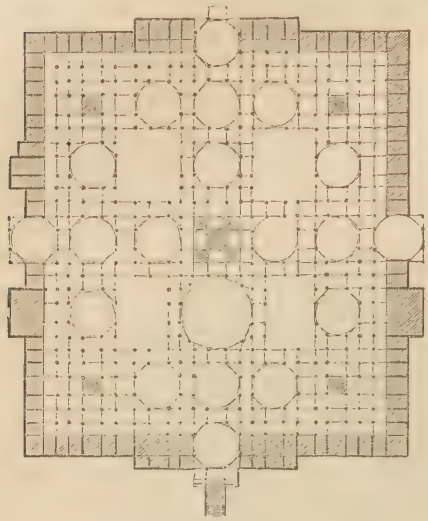
he built this Temple of Sadree, situated in a lonely and deserted glen, running into the western slope of the Aravulli, below his favourite fort of Komulmeer. Notwithstanding long neglect, it is still nearly perfect, and is the most complicated and extensive Jaina temple I have myself ever seen.

From the plan (woodcut No. 1087) it will be perceived that it is nearly a square, 200 ft. by 225, exclusive of the projections on each face. In the centre stands the great shrine, not, however, occupied, as usual, by one cell, but by four; or rather four great niches, in each

1086. Pillars at Chandrávati. From Tod's 'Western India.'

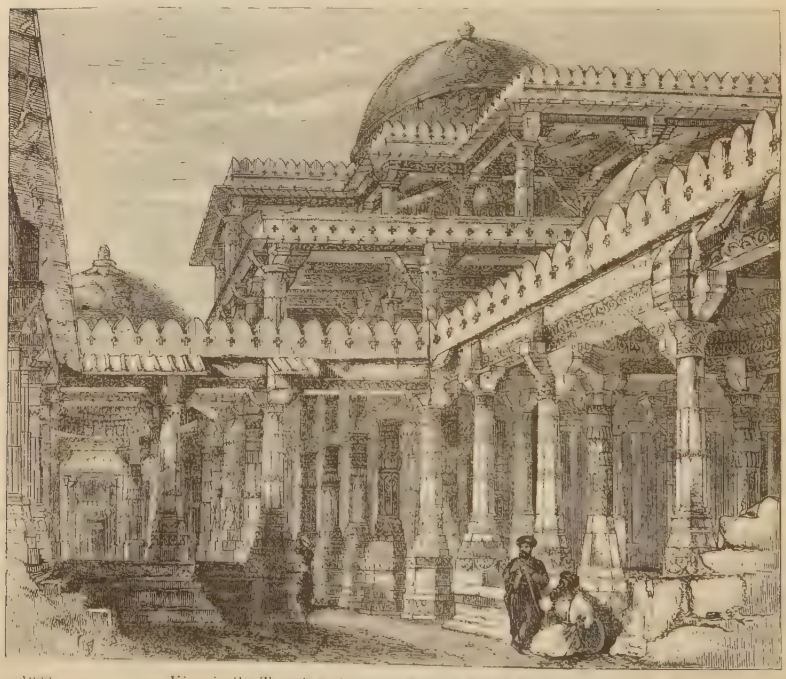
of which is placed a statue of Adinath, or Rishabdeva, the first and greatest of the Jaina saints. Above this are four other niches, similarly occupied, opening on the terraced roofs of the building. Near the four angles of the court are four smaller shrines, and around them, or on each side of them, are twenty domes, supported by about 420 columns; four of these domes, the central ones of each group, are three storeys in height, and tower over the others; and one—that facing the principal entrance—is supported by the very unusual number of sixteen columns, and is 36 ft. in diameter, the others being only 24 ft. Light is ad-

mitted to the building by four uncovered courts, and the whole is surrounded by a range of cells, many of them now unoccupied, each of which has a pyramidal roof of its own.



1087. Plan of Temple at Sadree. From a Plan by the Author. Scale 100 ft. to 1 in.

The internal effect of this forest of columns may be gathered from the view (woodcut No. 1088) taken across one of its courts; but it is impossible that any view can reproduce the endless variety of perspective and of light and shade which results from the disposition of the pillars, and of the domes, and from the mode in which the light is introduced. A wonderful effect also results from the number of cells, most of them containing images of the Tirthankar, which everywhere meet the view.



1088. View in the Temple at Sadree. From a Sketch by the Author.

Besides the twelve in the central Sikras there are eighty-six cells of very varied form and size surrounding the interior, and all their façades more or less adorned with sculpture.

The general external effect of the Sadree Temple may be judged of by woodcut No. 1089; owing to its lofty basement, and the greater elevation of the principal domes, it gives a more favourable impression of a Jaina temple than is usually the case. The greatest defect of these buildings as architectural designs being the want of ornament on their exterior faces; this, however, is more generally the case in the older than in the more modern temples.

The immense number of parts in the building, and their general smallness, prevents its laying claim to anything like architectural grandeur; but their variety, their beauty of detail—no two pillars in the whole building being exactly alike—the grace with which they

1089. External View of the Temple at Sadree.

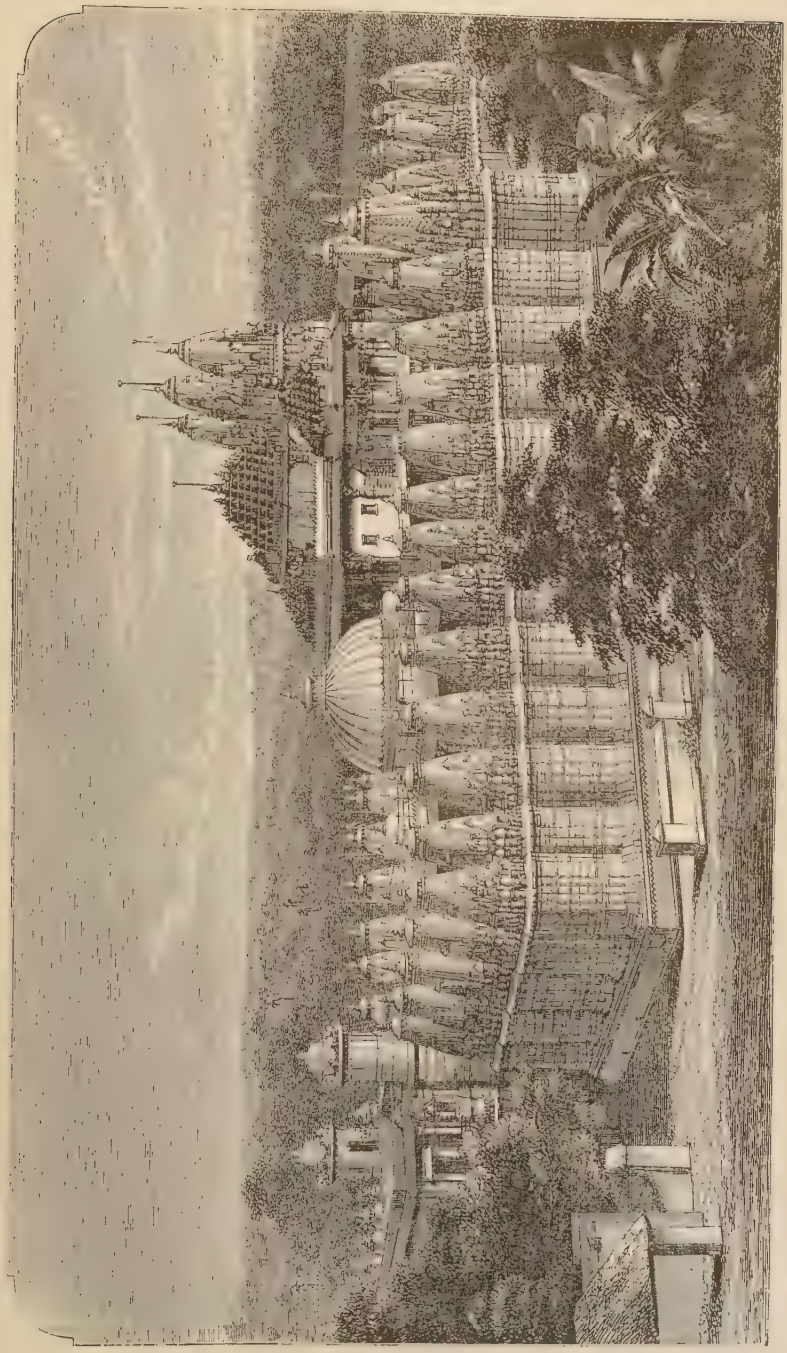
are arranged, the tasteful admixture of domes of different heights with flat ceilings, and the mode in which the light is introduced, combine to produce an excellent effect. Indeed, I know of no other building in India, of the same class, that leaves so pleasing an impression, or affords so many hints for the graceful arrangement of columns in an interior.

Besides its merits of design, its dimensions are by no means to be despised; it covers altogether about 48,000 sq. ft., or nearly as much as one of our ordinary mediæval cathedrals, and, taking the basement into account, is nearly of equal bulk; while in amount of labour and of sculptural decorations it far surpasses any.

Without illustrations it would be tedious to enumerate the various

Jaina monuments with which we are gradually becoming acquainted: but one modern specimen will serve to show the effect aimed at by this style, as well as to prove that it has hardly degenerated from its ancient excellence. For, though this woodcut does not prove it, there are photographs in this country which do exhibit the marvellous detail of this temple in a manner not to be mistaken. It was erected about 20 years ago by Huttising, a rich Jain merchant, and dedicated to Dharmanath the 15th Tirthankar. In this instance the external porch between two circular towers is of great magnificence and most elaborately ornamented, and leads to an outer court with sixteen cells on either side. In the centre of this is a domed porch of the usual form, with twenty pillars (see woodcut No. 1042). This leads to an inner porch of twenty-two pillars, two storeys in height, and with a roof of a form very fashionable in modern Jaina temples, though by no means remarkable for beauty, and difficult to render intelligible without more illustration than it merits. This leads to a triple sanctuary. Behind this is a smaller court with two groups of eight cells, one in each angle, with a larger cell in the centre, and two, still more important, at the point of junction between it and the first court. To the eye of a European, unaccustomed to its forms, some of them may seem strange; but its arrangement at least will probably be admitted to be very perfect. Each part goes on increasing in dignity as we approach the sanctuary. The exterior expresses the interior more completely than even a Gothic design; and whether looked at from its courts or from the outside, it possesses variety without confusion, and an appropriateness of every part to the purpose for which it was intended.

Even more startling than the erection of such a temple in the 19th century by a private individual is the extraordinary activity of architectural development which pervades the whole Jaina community in Guzerat. The fashionable shrine, on which at the present day the greatest amount of wealth is lavished is at Shutrunjee, or Palitana, as the sacred hill is called. It is now being covered with new temples and shrines which rival the old buildings not only in splendour, but in the beauty and delicacy of their details, and altogether form one of the most remarkable groups to be found anywhere—the more remarkable, if we consider that the bulk of them were erected within the limits of the present century. To the philosophical student of architecture it is one of the most interesting spots on the face of the globe, inasmuch as he can there see the various processes by which cathedrals were produced in the middle ages, carried on on a larger scale than anywhere else, and in a more natural manner. It is by watching the methods still followed in designing buildings in that remote locality that we become aware how it is that the uncultivated Hindu can rise in architecture to a degree of originality and perfection which has not been attained



1090. View of the Temple of Shet Huttising at Ahmedabad. From a Photograph by Colonel Biggs.

in Europe since the middle ages, but which might easily be recovered by following the same processes.

Besides the temples above enumerated, there are many others in Rajpootana which would deserve a place in our history if trustworthy illustrations were available. One of the most beautiful of these is found at Ajmeer, and seems tolerably perfect.[1] From the extreme attenuation of the pillars it is probably modern. It may be as late as the reign of Akbar, but without a photograph it is difficult to feel sure.

In and around the fort at Gwalior there are extensive remains of Jaina excavations, and also some important temples belonging to that faith. The largest in the fort is known as the Great Jain Temple. It is only a porch, however, with a ruined sanctuary. Its date fortunately is perfectly well known; it was dedicated 1092. The portion now remaining is two storeys in height, and it was at least intended to have been surmounted by an immense pyramidal tower. It is uncertain whether this was ever finished, but in order to support it the architect was forced to introduce four great piers in the middle of his dome, which is 36 ft. in diameter, and has thus spoiled his whole design internally.

This temple is interesting, not only from its perfectly known date, which is a landmark in the style, but from its sculptures exhibiting such a mixture of Jainaism and Vishnuism as to have led to considerable difference of opinion as to which religion it should be ascribed. It is in fact a perfect architectural illustration of that confusion between the two faiths already remarked upon at page 561. It can hardly be doubted that it was originally dedicated to one of the Tirthankars; but all the nine Avatars of Vishnu are there, and other symptoms of that mixture of the two religions which exists on the outer edges of the province, though not found near the centre.

At Mooktagiri, near Gawilghur, there exists a most extensive group of Jaina temples more picturesquely situated, in a ravine full of waterfalls, than almost any other in India. They are all modern, however, and show strong traces of the influence of the Mahomedan style. Arches are currently employed, and bulbous domes, and other heresies which must be dreadful to the Hindu mind; but they make up, in spite of these, a group so picturesque that it would be difficult to match it in any part of the world.

Besides these, there are many other groups in Rajpootana of more or less magnificence; but it would serve little purpose to enumerate them without illustrations. They must therefore be reserved for some future occasion. Frequently they are only single cells with porches of four or six pillars, scattered here and there by themselves; but whether detached or in groups, whether large or small, there is always

[1] A view of its interior is engraved in Tod's 'Annals of Rajasthan,' vol. i. p. 778.

a degree of taste and elegance about them which is sometimes wanting in other styles even in India.

In the Bengal provinces several of these Jaina temples have been converted into mosques, and constitute some of the few remains of more ancient times that the bigotry of the Moslems has spared to us. One still exists at Canouge, on the Ganges, the only really ancient building remaining of that great city. Another, though of more modern date, is found at Dhar, near Mandoo, in Malwa. But by far the most remarbable is the collection of Jaina remains around the Kootub Minar, at old Delhi, where they form the most picturesque and interesting group of ruins now found in Northern India, and for elaborate exuberance of detail are almost unrivalled.

The process by which this conversion of a Jaina temple to a Moslem mosque was effected will be easily understood by referring to the plan of that of Vimala Sah, on Mount Abu (woodcut No. 1083, p. 623). By removing the principal cell and its porch from the centre of the court, and building up the entrances of the cells that surround it, a court-yard was at once obtained, surrounded by a double colonnade, which always was the typical form of a mosque. Still one essential feature was wanting—a more important side towards Mecca; this they easily obtained by removing the smaller pillars from that side, and re-erecting in their place the larger pillars of the porch, with their dome in the centre; and, if there were two smaller domes, by placing them at each end. Thus, without a single new column or carved stone being required, they obtained a mosque which, for convenience and beauty, was unsurpassed by anything they afterwards erected from their own original designs. All this, however, will be more fully illustrated in Book V., when describing the Mahomedan architecture of India, of which this transformation was the commencement, as it was the end of the style which has just been described.

Mysore.

From photographs which have recently reached this country, some idea may be formed of the style of architecture practised by the Jains in their southern settlements; but as these are unaccompanied by plans or descriptions, and no dates are assigned to them, it is impossible to speak of them with any confidence. From what little we know of the history of this country we learn that the great Chalukya family held sway all round the shores of the Indian Ocean from the Indus to the Cauvery, from about the 6th century to the 13th or 14th. When we first meet any authentic records of them they certainly professed the Jaina faith; but before their fall they had nearly all been converted to Hinduism. The Bellala dynasty of Mysore, who

erected the temples of Belloor and Hullabeed described above, were among the greatest builders of the age. They were certainly Jains from their accession, 984, to the conversion of Vishnu Verdanna, 1124, and there must be many remains of temples built by them in their earlier days. When these are found, they cannot fail to be amongst the most beautiful specimens of Indian architecture yet brought to light.

Tradition ascribes some of the temples at Sravana Bellagoola to these kings, though our knowledge does not enable us to indicate which these may be. This place, which lies about 35 miles north-west of Seringapatam, is still the principal seat of the Jains in Southern India. On one of its hills is a colossal statue of "Gomut" Raja (Godama ?), 70 ft. in height, of one stone. It is said that the summit of the hill was cut away till this only was left; but it is more probable that the nucleus was a boulder lying on the summit. On the opposite hill are fifteen temples of considerable dimensions, and all, so far as can be judged, of much more modern date than the Bellala dynasty They are all in the Dravidian style of Southern India, something like the right hand Rath at Mahavellipore (woodcut No. 1006), but of great purity of design and outline. If they are old they would throw great light on the origin of that style. My impression, however, is that they are modern—200 or 300 years old—but even these are interesting as showing how the Jains could purify a very exuberant form of architectural art.

In the photographic illustrations of architecture in Mysore and Dharwar just published, are several examples of southern Jaina architecture of very great beauty. One at Guduk is superior as an external spire or vimana to anything yet described as existing in Guzerat. Another at Lukoonda is of singular elegance of detail, though not so pleasing in outline; and at Belgaum and elsewhere other examples are given, but in too fragmentary a form to admit of any classification or a general description of the styles being derived from them. They suffice to shew that a great number of examples do exist, belonging to the best age of Indian architecture, and quite sufficient to render this chapter of its history clear and full, so soon as anyone will take the trouble of making a systematic examination of them. As, with the aid of photography, this would not be difficult, we may trust that it will soon be undertaken.

Towers.

The Jains, like their predecessors the Buddhists, were great tower-builders; but towers are, in themselves, frailer structures than temples, besides which there is less zeal in preserving them, so that few remain perfect to our day. Two of these are still standing in the fort of Chittore. The older and smaller of the two, belonging apparently

to the tenth century, is the most elegant in form and detail. It is not known for what purpose it was erected.[1] The other was raised by the same Khumbo Rana who built the temple at Sadree, to commemorate his victory over Mahmoud of Malwa, in the year 1439. It is therefore in Buddhist language a *Jaya Sthamba*, or pillar of victory, like that of Trajan at Rome, but in infinitely better taste as an architectural object than the Roman example, though in sculpture it may be inferior. As will be seen from the woodcut, it is nine storeys in height, each of which is distinctly marked on the exterior. A stair in the centre communicates with each, and leads to the two upper storeys, which are open, and more ornamental than those below. It is 30 ft. wide at the base, and more than 120 ft. in height; the whole being covered with architectural ornaments and sculptures to such an extent as to leave no plain parts, while at the same time this mass of decoration is so kept under, that it in no way interferes either with the outline or the general effect of the pillar.

1091. Tower at Chittore. From a Sketch by the Author.

[1] See 'Illustrations of Indian Architecture,' by the Author, Plate ix.

The Mahomedans, as we shall afterwards see, adopted the plan of erecting towers of victory to commemorate their exploits, but the most direct imitation was by the Chinese, whose nine-storeyed pagodas are almost literal copies of these Jaina towers, translated into their own peculiar mode of expression.

Of the civil architecture of the Jains we know little. In the few buildings remaining there is nothing to distinguish them from those of the Hindus, and nothing that can at all vie either in interest or beauty with the temples we have just been describing. These temples, though smaller than those of the Southern Hindus, and less grand than some of the Buddhist remains, are still, I must think, the most pleasing and elegant specimens—of internal architecture at least—that are now to be found in India. Could they be traced to their source, they would probably afford as interesting a chapter of architectural history as any of the second-class styles we are acquainted with. At present the style is less known than any of the others found in India, and its history can scarcely be said to have been even broached, much less written by any of those who have hitherto given their attention to the subject.[1]

[1] In the above account of Jaina architecture I have omitted all allusion to the Indra Subba group of caves at Ellora, which are generally, and, I believe, correctly, ascribed to the Jains. I have done this because structural examples are so much more easily understood, that they are always preferable when they exist, and there is nothing in these caves remarkable in itself, nor anything that would throw more light on the subject than has been done by the examples above quoted. They look much more like Buddhist caves without cells than anything the Jains ever built, so far at least as we know, and, though interesting as specimens of cave architecture, have not the same merit as structural buildings. Illustrations of them will be found in Daniell's 'Views in the East.'

BOOK V.

INDIAN SARACENIC ARCHITECTURE.

CHAPTER I.

INTRODUCTORY.

From a very early period in the world's history a great group of civilized nations existed in Central Asia between the Mediterranean and the Indus. They lived apart, having few relations with their neighbours, except of war and hatred, and served rather to separate than to bring together the Indian and European communities which flourished beyond them on either hand.

Alexander's great raid was the first attempt to break through this barrier, and to join the East and West by commercial or social interchanges. The steady organisation of the Roman empire succeeded in consolidating what that brilliant conqueror had sketched out. During the permanence of her supremacy the space intervening between India and Europe was bridged over by the order she maintained among the various communities established in Central Asia, and there seemed no reason why the intercourse so established should be interrupted. Unsuspected, however, by the Roman world, two nomade nations, uninfluenced by her civilisation, hung on either flank of this great line of communication, ready to avail themselves of any moment of weakness that might occur.

The Arabs, as the most impetuous, and nearest the centre, were the first to break their bounds; and in the course of the 7th century Syria, Persia, Egypt, and the north of Africa became theirs. Spain was conquered, and India nearly shared the same fate. Under Muawiah the first caliph of the Ommiahs, two attempts were made to cross the Indus by the southern route that which the Scythians had successfully followed a short time before. Both these attempts failed, but under Walid, Mahomed Cassim, A.H. 99, did effect a settlement in Sinde. It proved a barren conquest, however; for though a Mahomedan dynasty was

established there, it soon became independent of the Califate, and eventually died out.

The supremacy of the Califate was as brief as it was brilliant. Its hour of greatest glory was about the year 800, in the reign of Haroun el Rashid. From that time decay set in; and after two centuries more the effeminacy and corruption inherent in Eastern dynasties had so far progressed as to encourage the Northern hordes to move.

During the course of the 11th century the Tartar hordes, who were hitherto only known as shepherds pasturing their herds on the steppes of Northern Asia, first made their appearance south of the Paropamisan range as conquerors; and for six centuries their progress was steadily onwards, till, in the year 1683, we find the Turks encamped under the walls of Vienna, and the Mogul Aurungzebe lord paramount of the whole of India Proper, while Egypt and all the intervening countries owned the rule of sovereigns of Turanian race.

The architecture of the nations under the Arab Califate has already been described, and is of very minor importance.[1] The ruling people were of Semitic race, and had no taste for architectural magnificence; and unless where they happened to govern a people of another stock, they have left few traces of their art.

With the Northern hordes the case was widely different; they were, without an exception, of Turanian blood, more or less pure, and wherever they went their mosques, and especially their tombs, remain to mark their presence, and to convey an idea of their splendour. In order to understand what follows, it is necessary to bear in mind that the Semitic conquest, from Mecca as a centre, extended from the mouths of the Guadalquivir to those of the Indus, and left but little worthy of remark in architecture. The Turanian conquest, from Bokhara and Balkh as centres, extended from Constantinople to Cuttack, and covered the whole intervening space with monuments of every class. Those of the west and centre have already been described in speaking of Turkey and Persia; the Eastern branch remains to be described, and its monuments are those of which this division of the work purports to be a description.

The Saracenic architects showed in India the same pliancy in adopting the styles of the various people among whom they had settled which characterised their practice in the countries already described. It thus happens that in India we have at least ten or twelve different styles of Mahomedan architecture; and if an attempt were made to exhaust all the examples, it would be found necessary to enumerate even a greater number.

[1] Egypt shewed little taste for architectural display till she fell under the sway of the Memlook Sultans, and Saracenic architecture in Persia practically commences with the Seljukians.

1. The first of these is the style of Ghazni. Though not situated strictly within the limits of India Proper, there is every reason to suppose that Mahmood, to whom the city owes its adornment, employed Indian architects to erect his buildings, and there can be no doubt, as all the future conquerors of India came either from Ghazni, or passed through it, that its architecture had a most important influence on the Indian styles. We know, however, so little about the buildings of Ghazni, that it is difficult to say what that influence was. It is, however, the most important question outstanding with regard to the Indian styles, and their connexion with the Western world, and consequently the most interesting problem to solve.

2. Next to this comes the Pathan style of Northern India, 1193–1554, spreading from Delhi over the whole of Upper India (now known as the North-West Provinces), and lasting for about three centuries and a half. During this period, however, the central power was frequently so weak that the distant provinces soon became independent, and with this independence developed a new form of architecture.

If a line is drawn due east and west across India from the mouths of the Ganges to those of the Indus, we shall find four independent states and styles within that zone.

3. Bengal, with its capital at Gour, 1203–1573, developed a style of great interest in an ethnological, though hardly so much so in an architectural point of view.

4. Next to this is that of Jaunpore, 1397–1478, one of the most distinct and characteristic of the Indian styles, based apparently on the antecedent Buddhist architecture of the province.

5. The third of this group, and the fifth in the enumeration of the whole, is the style Malwa, capital Mandoo, 1387–1568. It is more like the Pathan style of the north than the others, but still possesses features of its own sufficient to entitle it to separate consideration.

6. The last of the four is that of Ahmedabad, 1391–1583, which, taken altogether, is perhaps the most interesting of the group. Not only are its details of extreme beauty and elegance, but, being practically a development of the Jaina architecture, it is more purely Indian than any other, not excepting that at Jaunpore, which comes next to it in this respect.

7. South of this zone the principal style is that of Beejapore, 1498–1660, differing most essentially from those enumerated above, and remarkable for its constructive boldness and a general grandeur of conception and design.

8. All these were finally absorbed in the great Mogul empire, founded by Baber (1494), and which for our present purposes may be considered as ending with the death of Aurungzebe in 1707. This style is the one best known, and has hitherto been generally characterized as

the Saracenic style of India, although with more extended knowledge this is found to be far from being the case.

If this enumeration were intended to be exhaustive, it would be necessary to include the Bahmany style of the Deccan, 1347 to 1525; that of Golconda, 1512 to 1672; and that of Ahmednuggur, 1490 to 1607. These three are on the south, and anterior to the extension of the Mogul sway over the whole of India; and since the fall of that great dynasty three others have sprung up in Oude, Hydrabad, and the Mysore, each possessing a perfectly distinct style of its own, but generally so inferior as only to require to be described in some work especi devoted to the subject.

For the present we must content ourselves with the first eight, reserving the remaining six for an occasion when it may be considered desirable to exhaust the subject of Saracenic architecture in India.

In so slight a sketch as the present must inevitably be of a great subject, it is necessary to omit a great deal that is much more worthy of notice than these aberrant types of the style. They are not remarkable for any inherent beauty of design, nor do they illustrate any of the great principles of architecture, unless it is the dégeneracy in art which inevitably follows loss of independence or decay of public virtue.

CHAPTER II.

GHAZNI.

CONTENTS.

Tomb of Mahmoud — Gates of Somnath — Minars on the Plain.

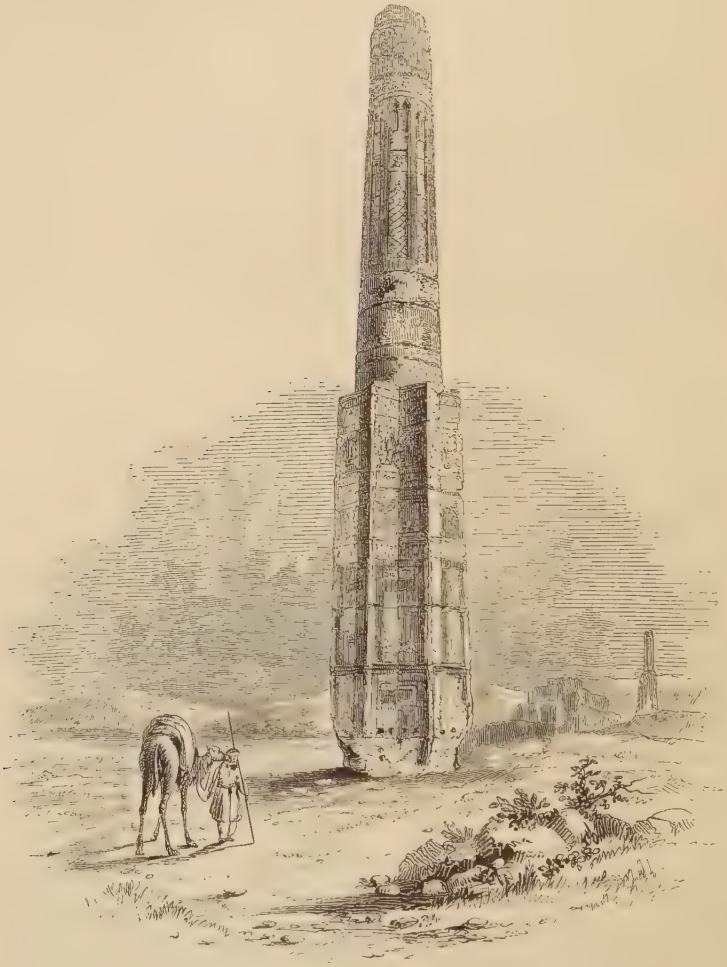
CHRONOLOGY.

Sabuktagin, founder	A.D. 975	Abdur-rashid	1048
Mahmoud	977	Ibrahim	1054
Masoud	1030	Shahab ud-deen (first of Ghori dynasty)	1183

Towards the latter part of the 9th century the power of the Caliphs of Bagdad was sinking into that state of rapid decline which is the fate of all Eastern powers. During the reign of Al Motamed, 870–891, Egypt became independent, and the northern province of Bokhara threw off the yoke under Nasr ben Ahmed, the governor appointed by the Caliph, the descendant of Saman, a robber chief, who declared and maintained his independence, and so formed the Samanian dynasty. After the dynasty had existed about a century, Sabuktagin, a Toorkish slave belonging to a general of one of the last of the Samanian kings, rendered himself also independent of his master and established himself in Ghazni, of which he was governor, founding the well-known dynasty of Ghaznavides. His successor Mahmoud, A.D. 977–1030, is one of the best-known kings in Indian history, owing to his brilliant campaigns in India, and more especially that in which he destroyed the celebrated temple of Somnath.

On his return from an earlier campaign, in which he had sacked the town of Muttra, we learn from Ferishtah that the king ordered a magnificent mosque to be built of marble and granite, afterwards known by the name of the Celestial Bride. Near it he founded a university. When the nobility of Ghazni perceived the taste of their king in architecture, they also endeavoured to vie with one another in the magnificence of their palaces, as well as in the public buildings which were raised for the embellishment of the city. "Thus," continues the historian, "the capital was in a short time ornamented with mosques, porches, fountains, aqueducts, reservoirs, and cisterns, beyond any city in the East."

The plain of Ghazni still shows the remains of this splendour; and in the dearth of information regarding Persian art of that age, an account of it would be one of the most interesting and valuable pieces of information we could receive. These ruins, however, have not been as yet either examined or described;[1] and even the tomb of



1092. Minar at Ghazni. From a Drawing by G. T. Vigne, Esq.

[1] It is very much to be regretted that not a single officer accompanied our armies, when they passed and repassed over Ghazni, able or willing to appreciate the interest of these ruins; and it is to be hoped, if an opportunity should again occur, that their importance to the history of art in the East will not be overlooked.

the Great Mahmoud is unknown to us, except by name,[1] notwithstanding the celebrity it acquired from the removal of its gates to India at the termination of our disastrous campaigns in that country.

These gates are of Deodar pine,[2] and the carved ornaments on them are so similar to those found at Cairo, on the mosque of Ebn Touloun and other buildings of that age, as not only to prove that they are of the same date, but also to show how similar were the modes of decoration at these two extremities of the Moslem empire at the time of their execution.

Two minars still adorn the plain outside the city, and form, if not the most striking, at least the most prominent of the ruins of that city. Neither of them was ever attached to a mosque; they are indeed pillars of victory, or *Jaya Sthambas*,[3] like those in India, and are such as we might expect to find in a country so long Buddhist. One of them was erected by Mahmoud himself; the other was built, or at least finished, by Masoud, one of his immediate successors.[4]

The lower part of these towers is of a star-like form—the plan being apparently formed by placing two squares diagonally the one over the other. The upper part, rising to the height of about 140 ft. from the ground, is circular; both are of brickwork, covered with ornaments of terra-cotta of extreme elaboration and beauty, and retaining its sharpness to the present day.

Several other minars of the same class are found farther west, even as far as the roots of the Caucasus,[5] which, like these, were pillars of victory, erected by the conquerors on their battle-fields. None of them have the same architectural merit as those of Ghazni, at least in their present state, though it may be that their ornaments, having been in stucco or some perishable material, have disappeared, leaving us now only the skeleton of what they were.

The weakness of Mahmoud's successors left the Indians in repose for more than a century and a half; and, like all Eastern dynasties, the Ghaznavides were gradually sinking to inevitable decay, when their fall was precipitated by the crimes of one of them, which were fearfully avenged by the destruction of their empire and capital by Ala ud-deen,

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[1] The sketch of the tomb published by Mr. Vigne in his 'Travels in Afghanistan' gives too confined a portion of it to enable us to judge either of its form or detail. The gate in front is probably modern, and the foiled arches in the background appear to be the only parts that belong to the 11th century.

[2] The tradition that these gates were of sandal-wood, and brought from Somnath, is entirely disproved by the fact of their being of the local pine-wood, as well as by the style of decoration, which has no resemblance to Hindu work.

[3] See pp. 635, &c.

[4] See translation of the inscription on these minars, J. A. S. B., No. 134, for 1843.

[5] Two are represented by Dubois de Montpéreux, 'Voyage autour du Caucase.'

and their race was at length superseded by that of the Ghori, in the person of Shahab ud-deen, in the year 1183.

Though centuries of misrule have weighed on this country since the time of the Ghaznavides, it is scarcely probable that all traces of their magnificence have passed away; but till their cities are examined by some one competent to discriminate between what is good or bad, or old or new, we must be content merely to indicate the position of the style, leaving this chapter to be written hereafter, when the requisite information shall have been obtained. In the meanwhile, it is satisfactory to know that between Herat and the Indus there do exist a sufficient number of monuments to enable us to connect the styles of the West with those in the East. They have been casually described by travellers, but not in such a manner as to render them available for our purposes; and in the present unsettled state of the country, it may be some time yet before their elucidation can be accomplished.

CHAPTER III.

PATHAN STYLE.

CONTENTS.

Mosque at Old Delhi — Kootub Minar — Tomb of Ala ud-deen — Pathan Tombs — Ornamentation of Pathan Mosques.

CHRONOLOGY.

Shahab ud-deen. Ghori	A.D. 1192	Nasar ud-deen, last of Khiljis	1393
Kutub ud-deen Ibek	1006	Khyer Khan under Tamerlane. . . .	1414
Shum ud-deen Altumsh.	1210	Behloli Lodi	1450
Ala ud-deen	1295	Shere Shah	1510
Tugluck Shah	1321	Sekunder defeated by Akbar	1554

With all the vigour of a new race, the Ghorians set about the conquest of India. After sustaining a defeat in the year 1191, Shahab ud-deen again entered India in 1193, when he attacked and defeated Pirthay, Raja of Delhi. This success was followed by the conquest of Canouge in 1194; and after the fall of these two, the capitals of the greatest empires in the peninsula, India may be said to have been conquered before his death, which happened in 1206.

At his death his great empire fell to pieces, and India fell to the share of Kootub ud-deen Ibek. This prince was originally a Toorkish slave; who afterwards became one of Shahab ud-deen's generals and contributed greatly by his talents and military skill to the success of his master. He and his successor, Altumsh, continued nobly the work so successfully begun, and before the death of the latter, in 1235, the empire of northern India had permanently passed from the hands of the Hindus to those of their Mahomedan conquerors.

For more than three centuries the empire continued under a succession of Toorkish, or, as they are usually called, Pathan dynasties. These monarchs exhibited a continued vigour and energy very unusual in the East, and not only sustained but increased and consolidated this newly acquired accession to the dominions of the faithful, until 1494, when Baber, the 4th in descent from Tamerlane, invaded Hindostan. He finally succeeded in establishing the celebrated dynasty of the Moguls, which during six successive reigns, extending over the extraordinary period of more than two centuries, reached a degree of splendour and solid power almost unknown in the East.

The Pathans commenced their career in India with a great display

of architectural magnificence; or rather, in the first flush of conquest, they employed their new subjects to erect for them a series of buildings in their new capital at Delhi, which are among the most remarkable in the country; but as they became established their architectural zeal seemed to slacken. Notwithstanding this, we have, throughout their whole career, buildings—especially tombs—belonging to this race, and remarkable rather for a stern severity of style and gloomy appropriateness than for the lighter graces of architectural design. These remarks do not, however, apply to the group of ruins which still exist around the tall column of Victory erected by Kootub at Delhi within the precincts of the palace of the unfortunate Pirthay Raja, in order to perpetuate the memory of his conquest of the Hindus.

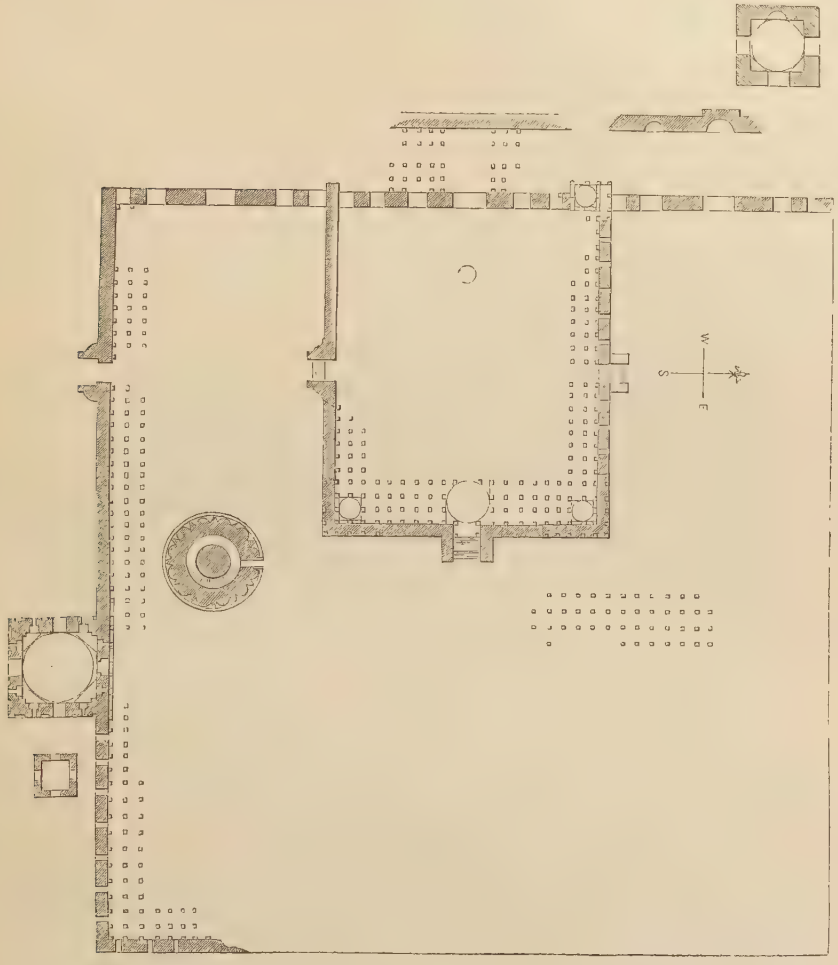
Even in situation these ruins are singularly beautiful, for they stand on the gentle slope of a hill, overlooking a plain that had once apparently been a lake, but which afterwards became the site of three successive capitals of the East. In front are the ruins of Togluckabad, the gigantic fort of an old Pathan chief; and farther north the plain is still covered with the ruins of Old Delhi, the capital of the later Pathans and earlier Moguls. Beyond that, at the distance of 9 or 10 miles, are seen the towers of Shahjehanabad, the modern capital, and till recently the seat of the nominal monarchy of the Great Mogul. Still farther north are situated the civil station and cantonments of the British rulers of the country. It is a fortunate circumstance that the British station was not, as at Agra, placed in the midst of the ruins, since it is to this that we owe their preservation. But for the distance, marble columns would doubtless have been taken for all purposes for which they might have been available, with a total disregard to their beauty and the interest of the ruins thereby annihilated. Even as it is, the buildings belonging to the celebrated Shahlimar gardens, which were the only buildings of importance in the neighbourhood of the English station, have disappeared; but these are of slight importance as compared with the ruins further south.[1]

The general arrangement of the principal ruins will be understood from the plan (woodcut No. 1093), which was taken with great care, though the scale to which it has been necessary to reduce it prevents

[1] At one time a better influence seems to have prevailed, and some money was spent in repairing the Kootub Minar. It is true this was done in the worst possible taste. A door was added in the true style of Strawberry Hill Gothic; a kiosk was stuck on its summit copied from the garden pavilion of some modern dwelling in Delhi, and balustrades were added to the balconies in the same taste. A dome once surmounted the whole; but, as this was of lath and plaster, or some such material, it disappeared long ago, and the pavilion itself has since then been taken down and erected on the ground. The masonry was, however, at that time repaired and consolidated, and we must therefore be thankful that so much was done, and not grumble at the mode.

all its peculiarities from being seen. To understand it, it is necessary to bear in mind that all the pillars are of Hindu, and all the walls of Mahomedan architecture.

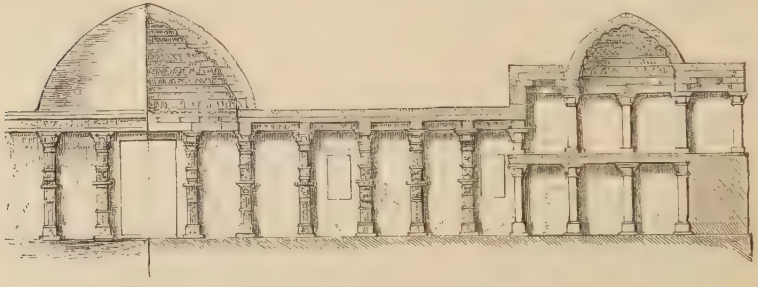
It is a little difficult to determine whether the pillars now stand as originally arranged by the Hindus, or whether they have been taken



1093. Plan of Ruins in Old Delhi. From a Plan by the Author. Scale 100 ft. to 1 in.

down and re-arranged by the conquerors. Even supposing the former to be the case, it is quite evident that all the enclosing walls were erected by the Moslems, since all the string-courses are covered with ornaments in their style, and all the openings possess pointed arches, which the Hindus never used; indeed, it seems probable that the whole structure was rearranged in the form we now see it by the

Mahomedans. The celebrated mosque at Canouge is undoubtedly a Jaina temple, rearranged on a plan precisely similar to that of the mosque of Amrou at Old Cairo (woodcut No. 921). The roof and domes are all of Jaina architecture, so that no trace of the Moorish style is to be seen internally: but the exterior is as purely of Mahomedan architecture. There is another mosque at Dhar, near Mandoo, of more modern date, and, without doubt, a re-arrangement of a Jaina temple, as explained p. 633. Another, in the fort at Jaunpore, as well as fragments of other mosques elsewhere, all show the same system of taking down and re-arranging the materials on a different plan. If, therefore, the pillars at the Kootub were *in situ*, it would be the only instance known of such a case. It may be necessary to explain that there could be no difficulty in taking down and rebuilding these erections, because the joints of the pillars are all fitted with the precision that Hindu patience alone could give. Each compartment of the roof is composed of nine stones—four architraves, four angular



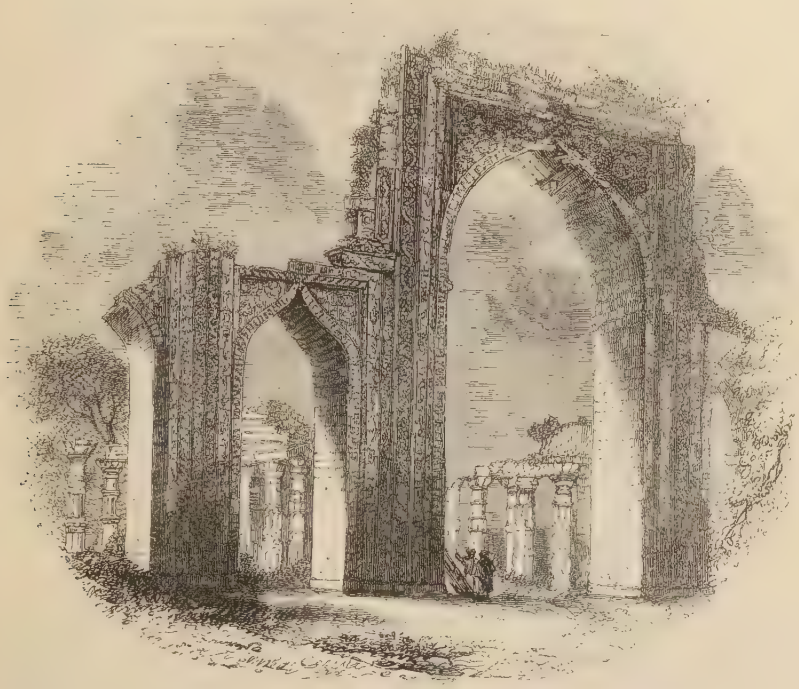
1094. Section of part of East Colonnade at the Kootub, Old Delhi. Scale 25 feet to 1 in.

and one central slab (as explained in diagram No. 1036, p. 552), all so exactly fitted, and so independent of cement, as easily to be taken down and put up again. The same is true of the domes, all which, being honestly and fairly fitted, would suffer no damage from the process of removal.

The section (woodcut No. 1094), of one half of the principal colonnade (the one facing the great series of arches) will explain its form better than words can do. It is so purely Jaina, that it should perhaps have been mentioned in speaking of that style; but as forming a part of the earliest mosque in India, it is more appropriately introduced in this place. The pillars are of the same order as those used on Mount Abu (woodcut No. 1084), except that those at Delhi are much richer and more elaborate. They belong probably to the 11th or 12th century, and are among the few specimens to be found in India that seem to be overloaded with ornament—there not being one inch of plain surface from the capital to the base. Still the ornament is so sharp and so cleverly executed, and the effect,

in their present state of decay and ruin, so picturesque, that it is very difficult to find fault with what is so beautiful. In some instances the figures that were on the shafts of the pillars have been cut off, as offensive to Mahomedan strictness with regard to idolatrous images; but on the roof and less seen parts, the cross-legged figures of the Jaina saints, and other emblems of that religion, may still be detected.

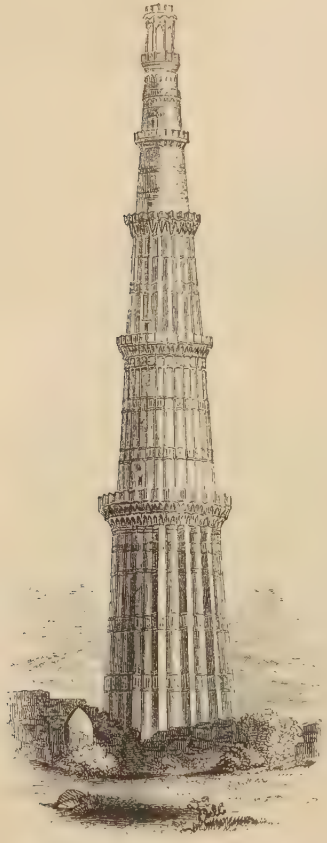
The glory of the mosque, however, is not in these Hindu remains, but in the great range of arches on the western side, extending north



1095. Central Range of Arches at the Kootub. From a Sketch by the Author.

and south for about 385 ft., and consisting of three greater and eight smaller arches; the central one 22 ft. wide and 53 high; the larger side-arches 24 ft. 4 in., and about the same height as the central arch; the smaller arches, which are unfortunately much ruined, are about half these dimensions. Behind this, at the distance of 32 ft., are the foundations of another wall; but whether intended to be carried as high as that in front is by no means apparent. It seems probable that the Hindu pillars between the two screens were the only part proposed to be roofed, since some of them are built into the back part of the great arches, and all above them is quite plain

and smooth, without the least trace of any intention to construct a vault or roof of any sort. Indeed, a roof is by no means an essential part of a mosque; a wall facing Mecca is all that is required, and in India is frequently all that is built, though an enclosure is often added in front to protect the worshippers from interruption. Roofed colonnades are of course convenient and ornamental accompaniments, yet far from being indispensable.



1096. Minar of Kootub. From a Sketch by the Author.

The history of this mosque, as told in its construction, is as curious as anything about it. It seems that the Afghan conquerors had a tolerably distinct idea that pointed arches were the true form for architectural openings; but, being without science sufficient to construct them, they left the Hindu architects and builders whom they employed to follow their own devices as to the mode of carrying out the form. The Hindus up to this time had never built arches —nor indeed did they for centuries afterwards. Accordingly they proceeded to make the pointed openings on the same principle upon which they built their domes. They carried them up in horizontal courses as far as they could, and then closed them by long slabs meeting at the top, the construction being in fact that of the arch of the aqueduct at Tusculum, shown in woodcut No. 170. The same architects were employed by their masters to ornament the faces of these arches; and this they did by copying and repeating the ornaments on the pillars and friezes on the opposite sides of the court, covering the whole with a lacework of intricate and delicate carving, such as no mosque ever received before or since; and which—though perhaps in a great measure thrown away when used on such a scale—is, without exception, the most exquisite specimen of its class known to exist anywhere. The stone being particularly hard and good, the carving retains its freshness to the present day, and is only destroyed above the arches, where the faulty Hindu construction has superinduced premature decay.

The Kootub minar or great minaret is 48 ft. 4 in. in diameter at the

base, and, when measured in 1794, was 242 ft. in height.[1] Even then, however, its capital was ruined, so that some 10 or perhaps 20 ft. must be added to this to complete its original elevation. It is ornamented by four boldly projecting balconies; one at 90, the second at 140, the third at 180, and the fourth at 203 ft. from the ground; between which are richly sculptured raised belts containing inscriptions. In the lower storey the projecting ribs which form the flutes are alternately angular and circular, in the second circular, and in the third angular only; above this the minar is plain, and principally of white marble with belts of the red sandstone of which the three lower storeys are composed.

The angular flutings—if they may be so called—are interesting in this instance, as they are evidently copied from the older Jaina or Chalukya style which previously existed on the spot. We have no Jaina temples remaining at Delhi, but those at Guduck in Dharwar,[2] the Kait Iswara at Hullabeed (woodcut No. 1079), and many others, exhibit this peculiarity. It adds also to the probability of the Ghazni monuments being erected by Hindu architects, that we find the same angular arrangement in the base of the minars outside that city.

The only Mahomedan building known to be taller than this is the minaret of the mosque of Hassan, at Cairo (p. 389 and woodcut No. 928); but as the pillar at Old Delhi is a wholly independent building, it has a far nobler appearance, and both in design and finish far surpasses not only its Egyptian rival, but any building of its class known to me in the whole world.

At the distance of 470 ft. north of this one a second minar was commenced, of twice its dimensions, or 297 ft. in circumference. It was only carried up to the height of 40 ft., and abandoned probably in consequence of the removal of the seat of government to the new capital of Togluckabad.

The date of all these buildings is known with sufficient exactness from the inscriptions which they bear,[3] from which it appears that the inner court was enclosed by Shahab ud-deen. The central range of arches (woodcut No. 1095) was built by Kootub ud-deen; the wings by Altumsh, whose tomb is behind the northern range, and the minar was either built or finished by the same monarch: they extend therefore from A.D. 1196–1235, at which date they were left incomplete in consequence of the death of the last-named king.

Immediately behind the north-west corner of the mosque stands the tomb of Altumsh, the founder. Though small, it is one of the richest examples of Hindu art applied to Mahomedan purposes that Old Delhi

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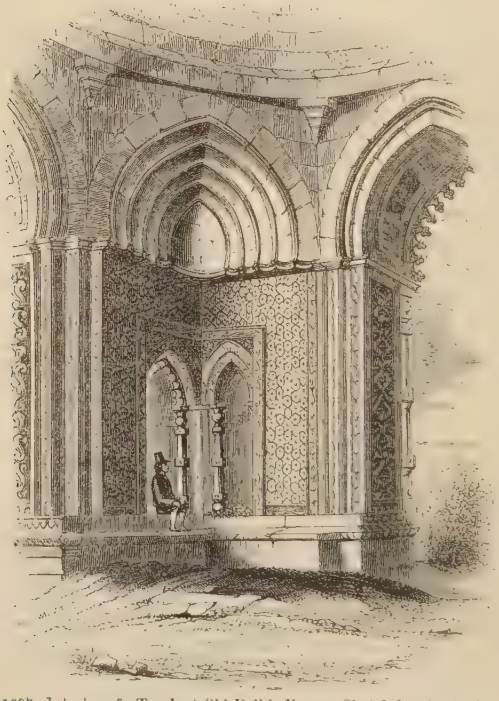
[1] 'Asiatic Researches,' vol. iv. p. 313. Its present height, according to Gen. Cunningham, is (after the removal of the modern pavilion) 238 ft. 1 in.

[2] 'Architectural Illustrations of Dharwar and Mysore,' Plate I.

[3] Translated by Walter Ewer, 'Asiatic Researches,' vol. xiv. p. 480.

affords, and is extremely beautiful, though the builders still display a certain degree of inaptness in fitting the details to their new purposes. The effect at present is injured by the want of a roof, which, judging from appearance, was never completed, if ever commenced. In addition to the beauty of its details it is interesting as being the oldest tomb known to exist in India.

A more beautiful example than even this is the other, shown on the left hand of the plan (woodcut No. 1093). It was erected by Ala uddeen Khilji, and the date 1310 is found among its inscriptions. It is therefore about a century more modern than the other buildings of the place, and displays the Pathan style at its period of greatest perfection, when the Hindu masons had learned to fit their exquisite style of decoration to the forms of their foreign masters. Its walls are decorated internally with a diaper pattern of unrivalled excellence, and the mode in which the square is changed into an octagon is more simply elegant and appropriate than any other example I am acquainted with in India. The pendentives accord perfectly with the pointed openings in the four other faces, and are in every respect appropriately constructive.[1] True, there are defects. For instance, they are rather too plain for the elaborate diapering which covers the whole of the lower part of the building both internally and externally; but ornament might easily have been added; and their plainness accords with the simplicity of the dome, which is indeed by no means worthy of the substructure. Not being pierced with windows, it seems as if the architect assumed that its plainness would not be detected in the gloom that prevails in consequence.

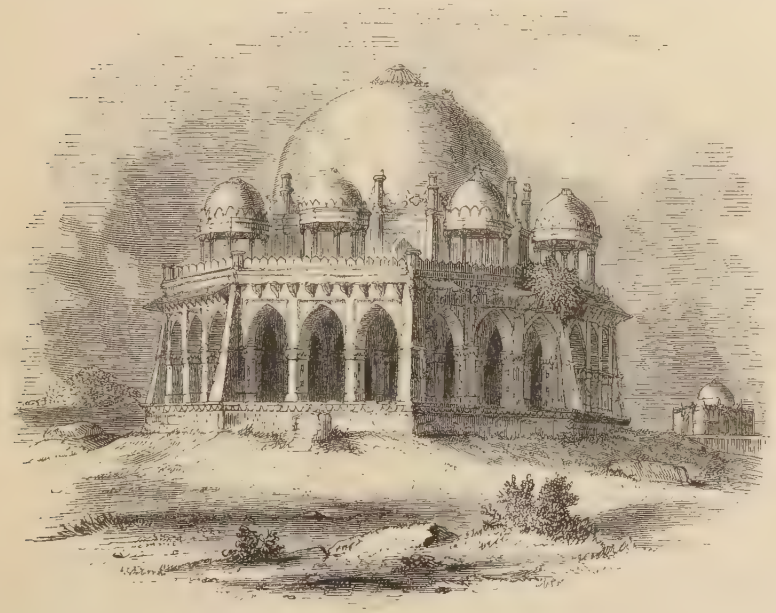


1097. Interior of a Tomb at Old Delhi. From a Sketch by the Author.

[1] The same form of pendentive is found at Serbistan (woodcut No. 946) nearly ten centuries before this time.

There are several other fragments grouped around the Kootub, belonging either to an early age or to the quasi-Hindu style, which differs most materially from the ordinary form of Pathan art at a subsequent period. By the time when Togluck Shah moved his capital to the plain below, the Pathans had worked themselves tolerably free from dependence on Hindu architects to carry out their buildings, and then expressed themselves with a rude grandeur which is very remarkable.

The usual form of a Pathan tomb will be better understood from the following woodcut (No. 1098), representing a nameless sepulchre among the hundreds that still strew the plains of Old Delhi. It consists of an octagonal apartment, about 50 ft. in diameter, surrounded by a verandah following the same form, each face being ornamented by three arches of the stilted pointed form generally adopted by the Pathans, and it is supported by double square columns, which are almost as universal with them as the form of arch. It is evidently a reminiscence of the Hindu art from which their style sprang.

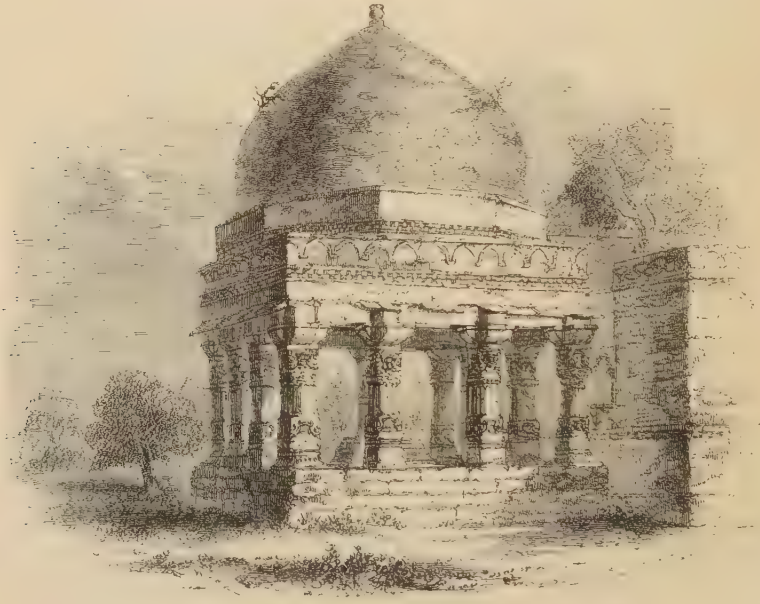


1098. Tomb at Old Delhi. From a Sketch by the Author.

When the stern old warrior Togluck Shah (1321) founded the new Delhi, which still bears his name, he built himself a tomb, not in a garden, as was usually the case, but in a strongly-fortified citadel in the middle of an artificial lake. The sloping walls and almost Egyptian solidity of this mausoleum, combined with the bold and massive towers

of the fortifications that surround it, form a picture of a warrior's tomb unrivalled anywhere, and a singular contrast with the elegant and luxuriant garden tombs of the more settled and peaceful dynasties that succeeded.

The tomb of Shere Shah, the last of the Pathans, is situated in the middle of an artificial tank at Sasseram, near Benares, and is one of the largest, though certainly not the best, of the Pathan tombs. In design it is very similar to that represented in woodcut No. 1098, but apparently of considerably larger dimensions. It stands on a massive square terrace, with an octagonal kiosk at each angle, which with the various smaller pavilions and kiosks make up an architectural object of great beauty and picturesqueness.



1099. Pathan Tomb at Shepree, near Gualior. From a Sketch by the Author.

As a general rule, the Pathan tombs are complete examples of the Saracenic style, and show but slight traces of Hindu design. But this was not always the case; for, as in their earlier mosques, they sometimes appropriated the remains of Jaina architecture to save themselves the trouble of erecting the whole building from original materials. These compound edifices are frequently composed of only four pillars supporting a small dome; but more generally (as in that represented woodcut No. 1099), of twelve, arranged as the Jaina domes usually are,[1] in an octagon worked into a square, supporting a dome of slightly pointed form.

[1] See p. 556 *et seqq.*

It should not be overlooked that this tomb is almost an exact counterpart in design with that at Mylassa (woodcut No. 233), a fact which shows a curious persistence in an arrangement which, it must be confessed, is one of the most beautiful ever invented.

At first sight the upper part of the building looks somewhat too massive for the substructure; but its destination as a tomb renders this appropriate, and it is probable that the architect intended thus to produce that solemnity which closed walls impart to the ordinary form of sepulchre.

The mosques of the Pathans bore the same aspect as their tombs. The so-called Kala Musjid in the present city of Delhi, and finished, according to an inscription on its walls, in 1389, is in a style not unlike the tomb, woodcut No. 1098, but more massive, and even less ornamented. This severe simplicity seems to have been the characteristic of the latter part of the 14th century, and may have been a protest of the more puritanical Moslem spirit against the Hindu exuberance which characterized both the 13th and the 15th centuries. A reaction, however, took place, and the late Pathan style of Delhi was hardly less rich, and certainly far more appropriate for the purposes to which it was devoted than the first style, as exhibited in the buildings at the Kootub.

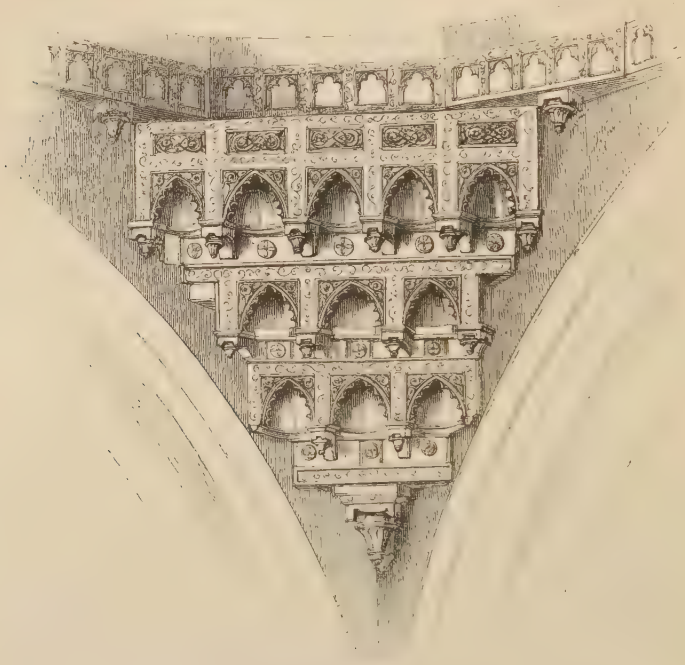
The façades of these mosques became far more ornamental, and more frequently encrusted with marbles, and always adorned with sculpture of a rich and beautiful character; the angles of the building were also relieved by little kiosks, supported by four richly bracketed pillars, but never with minarets, which, so far as I know, were not attached to mosques during the Pathan period. The call to prayer was made from the roof; and I do not know a single instance of a minaret built for such a purpose, though they were, as we know, universal in Egypt and elsewhere long before this time, and were considered nearly indispensable in the buildings of the Moguls very shortly afterwards. The Pathans seem to have regarded the minar as the Italians viewed the Campanile, more as a symbol of power and of victory than as an adjunct to a house of worship.

The body of the mosque became generally an oblong hall, with a central dome flanked by two others of the same horizontal dimensions, but not so lofty, and separated from it by a broad bold arch, the mouldings and decorations of which formed one of the principal ornaments of the building.

The pendentives were even more remarkable than the arches for elaborateness of detail. Their forms are so various that it is impossible to classify or describe them; perhaps the most usual is that represented in woodcut No. 1100, where the angle is filled up with a number of small imitations of arches, bracketing out one beyond the other. It

was this form that was afterwards converted into the honeycomb work of the Arabs in Spain.

If it were not that the buildings of the Pathans are so completely eclipsed by the greater splendour of those of the Mogul dynasty, which succeeded them in their own capitals, their style would have attracted more attention than has hitherto been bestowed upon it; and its monograph would be as interesting as any that the Indian Saracenic affords.



1100. Pendentive from Mosque at Old Delhi. From a Sketch by the Author.

In its first period the style was characterised by all the richness which Hindu elaboration could bestow; in the second by a stern simplicity and grandeur much more appropriate, according to our ideas, to the spirit of the people; and during the latter part of its existence, by a return to the elaborateness of the past; but at this period every detail was fitted to its place and its purpose. We forget the Hindu except in his delicacy, and we recognise one of the completed architectural styles of the world.

CHAPTER IV.

GOUR.

CONTENTS.

Segmental roofs — Adinah Mosque — Minar in fort.

If the materials existed for the complete illustration of its antiquities, there would be few chapters in this division of the work more curious than that which described the old Pathan capital of Bengal. The available information, however, hardly suffices for this purpose,[1] and, after all, the interest is more ethnographical than artistic. Its most curious feature is the segmental form of roof and cornice represented in woodcut No. 1101, which for the last two centuries has been the favourite ornament not only of the Mahomedan but of the Hindu architects, and is found in almost every modern building. It hardly admits of a doubt that this form is copied from the bamboo huts and houses universal in Lower Bengal. (See p. 601.) Any one acquainted with the permanent elasticity and other properties of the bamboo will easily understand how much strength is gained by the introduction of curved roofs where that material is employed. The Bengalese soon found this out, and adopted them on all occasions. This being so, the transference of the form to buildings of a more permanent character was inevitable, and it became the most common of forms in modern designs.

1101. Modern Curved Form of Roof.

It is a curious illustration, however, of how much there is in architecture that is conventional and how far familiarity may render that beautiful which is not so abstractedly, that while to the European eye this form always remains unpleasing, to the native eye—Hindu or Mahomedan—it is the most elegant of modern inventions.[2]

[1] Since this was written I have seen a very complete set of photographs from Gour, but too late to avail myself of them.

[2] In this respect it is something like the curvilinear pediments which Roman and Italian architects employed as window heads. Though detestable in themselves, yet we use and admire them because we are accustomed to them.

Even irrespective of this peculiarity, the buildings of Gour are worthy of attention from their dimensions, and for the distinctive local character of their details. The great Adinah Mosque, for instance, is exactly similar to the great mosque at Damascus (woodcut No. 920) not only in the arrangement of the plan, but in dimensions, and is, on the whole, a better and more consentaneous design. Many of the details at Damascus are borrowed from other edifices, while every detail in the various buildings of Gour has the merit of being designed for the place where it is found, and being thoroughly appropriate to the use to which it is applied. The material employed for the walls and vaults is generally brick, but the pillars and many of the architectural details are carved in a black indurated potstone or hornblende, which takes a very fine polish, and retains its sharpness to the present day.

The worst feature in the designs of the Gour mosques is, that, like that at Cordoba, they want variety and subordination of parts. The great Adinah, built by Sekander Shah (A.D. 1358-1367), for instance, is a building 500 ft. north and south by 300 east and west, containing a courtyard, surrounded on all sides by a thick brick wall, divided into eighty-eight similar arcaded openings, only one of which, that on the centre facing Mecca, is larger and more dignified than the rest. The roof in like manner is supported by 266 pillars of black hornblende, of a bold and pleasing design, it must be confessed, but wanting in variety: and these and the walls support no less than 385 domes, all similar in design and construction.[1] The only variety that exists is where a platform, called the Padshah ka Tukt, or "King's throne," cuts the height into two storeys. A design,

1102. Minar at Gour, from a Photograph by J. H. Ravenshaw, B.C.S.

[1] These particulars are taken principally from Buchanan Hamilton's Statistics of Dinajepore, published by Montgomery Martin in his 'Eastern India.' 1838.

such as that of the Adinah Mosque, would be appropriate for a caravanserai; but in an edifice where expression and beauty were absolutely required it is far too monotonous. The same defect runs through the whole group; and though their size and elegance of details, joined with the picturesque state of richly foliaged ruin in which they are now found, make them charming subjects for the pencil, they possess all the defects of design we remarked in the great halls of a thousand columns in the south of this country.[1] It seems, indeed, almost as if here we had again got among the Tamul races, and that their peculiarities were reappearing on the surface, though dressed in the garb of a foreign race.

One of the most interesting of the antiquities of the place is a minar, standing in the fort (Woodcut, No. 1102). For two-thirds of the height it is a polygon of twelve sides; above that circular, till it attains the height of 84 ft. The door is at some distance from the ground, and altogether it looks more like an Irish round-tower than any other example known, though it is most improbable that there should be any connection between the two forms. It is evidently a pillar of victory —a Jaya Sthamba—such as the Kootub Minar at Delhi, and those at Coel, Dowlutabad and elsewhere. There is, or was, an inscription on this monument which ascribed its erection to Firuz Shah. If this is so, it must be the king of that province who reigned in Gour A.H. 702–715, or A.D. 1302–1315,[2] and the character of the architecture fully bears out this adscription.[3] The native tradition is, that a saint, Peer Asa, lived, like Simon Stylites, on its summit!

[1] Page 568, *et seq.*

[2] Initial coinage of Bengal, by Edward Thomas, B.C.S. 1866.

[3] In the woodcut, though not so clearly as in the photograph, will be observed the long pendent root of the tree which has been planted by some bird in the upper gallery. In another year or two it will reach the ground, and then down comes the minar. Any one with a penknife might save it by five minutes' work. But *Cui bono?* says the Saxon.

CHAPTER V.

JAUNPORE AND MANDOO.

CONTENTS.

Jumma Musjid and Lall Durwaza, Jaunpore — Mosque at Canouge — Mosque and Tombs at Mandoo.

CHRONOLOGY.

Khoja Jehan assumes independence at Jaunpore	A.D. 1397	Mahmud	1441
Mubarick, his son	1400	Husen Shah	1451
Shems ud-deen—Ibrahim Shah	1401	—— deposed and seeks refuge at Gour	1478

It was about two centuries after the conquest of India by the Moslems that Khoja Jehan, the Soubahdar or governor of the province in which Jaunpore is situated, assumed independence, and established a dynasty which maintained itself for nearly a century, from A.D. 1397 to about 1478, and though then reconquered by the sovereign of Delhi, still retained a sort of semi-independence till finally incorporated in the Mogul empire by the great Akbar. During this period Jaunpore was adorned by several large mosques, three of which still remain tolerably entire, and a considerable number of tombs, palaces, and other buildings, besides a fort and bridge, all of which are as remarkable specimens of their class of architecture as are to be found anywhere in India.

It is at Jaunpore that we first meet with a style in which, though Mahomedan, Hindu forms are deliberately preferred to those of Moslem origin. At Delhi the earliest mosques are of Hindu architecture, either because erected with the pillars of desecrated Hindu temples, or because the invaders had not the skill to carry out the designs they forced their subjects to construct. At Gour arches occur everywhere, probably because brick was the material principally employed, and there, in consequence, Hindu forms could not be used. But at Jaunpore the architects, though Moslem, deliberately prefer the columnar forms of the Hindus, and use pillars with bracket capitals and beams wherever they could be introduced. Occasionally they are obliged to employ arches; but it is *contre gré*, and they revert to the pillars as soon as possible. Nor is it difficult to see why this was the case. The country around Jaunpore had long been thickly populated and civilized. Sarnath and Benares were the centres of two great religious communities as powerful as any in India, and when the Moslems

settled among them they wisely accommodated themselves to circumstances, as they did everywhere else, and employed the native artificers. In this instance with the happiest results.

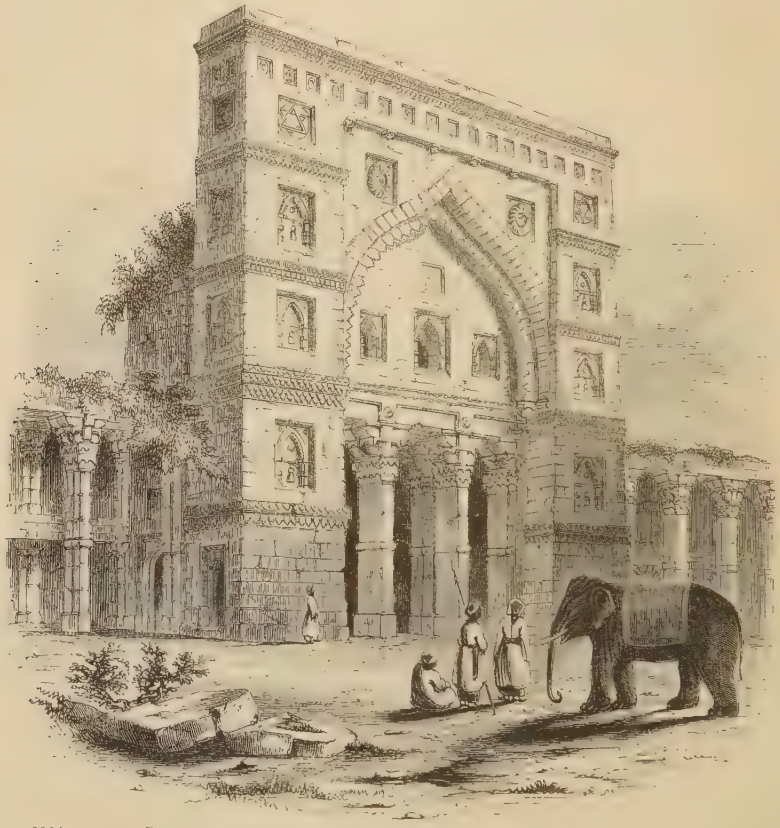
The Jumma Musjid, or Friday Mosque, was commenced by Shah Ibrahim, A.D. 1419, but not completed till the reign of Hosein, 1451–1478. It consists of a court-yard 220 ft. by 214, on the western side of which is situated a range of buildings, the central one covered by a dome 40 ft. in diameter, in front of which stands a gate pyramid or *propylon*,[1] of almost Egyptian mass and outline, rising to the height of

1103. View of lateral Gateway of Jumma Musjid, Jaunpore. From a Drawing by the Author.

86 ft. This gate pyramid by its elevation supplied the place of a minaret—a feature possessed by none of these mosques. On each side of the dome is a compartment divided into two storeys by a stone floor supported on pillars; and beyond this, on each side, is an apartment 40 ft. by 50, covered by a bold pointed vault with ribs, so constructed that its upper surface forms the external roof of the building,

[1] A view of it, but not a good one, is given in Daniell's plates.

which in Gothic vaults is scarcely ever the case. The three sides of the court-yard were surrounded by double colonnades, two storeys in height internally, but with three on the exterior, the floor of the court-yard being raised to the height of the lower storey. On each face was a handsome gateway; one of which is represented in woodcut No. 1103, which gives a fair idea of the style: the greater part of the eastern side of the court has been taken down and removed by the



1104. Lall Durwaza Mosque, Jaunpore. From a Drawing by the Author.

English to repair station-roads and bridges, for which in their estimation these pillars are admirably adapted.

The smallest of the mosques is the Lall Durwaza or Red Gate. It is in the same style as the others; and its propylon—represented in woodcut No. 1104—displays not only the bold massiveness with which these mosques were erected, but shows also that strange admixture of Hindu and Mahomedan architecture which pervaded the style during the whole period of its continuance.

Of the three mosques remaining at Jaunpore, the Atala Musjid is the most ornate and the most beautiful. The colonnades surrounding its court are four aisles in depth, the outer columns, as well as those next the court, being double square pillars. The three intermediate rows are single square columns. This is altogether so like an Indian arrangement, that I at one time was half inclined to agree with Baron Hugel, and fancy that the mosque was an old Buddhist monastery. Its gateways, however, which are the principal ornaments of the outer court, are purely Saracenic, and the western face is adorned by three propylons similar to that represented in the last woodcut, but richer and more beautiful, while its interior domes and roofs are superior to any other specimen of Mahomedan art I am acquainted with of so early an age.

The other buildings hardly require particular mention, though, as transition specimens between the two styles, these Jaunpore examples are well worthy of illustration, and in themselves possess a simplicity and grandeur not often met with in this style. An appearance of strength, moreover, is imparted to them by their sloping walls, which is foreign to our general conception of Saracenic art, though at Tuglukabad and elsewhere it is carried even further than at Jaunpore. Among the Pathans of India the expression of strength is as characteristic of the style as massiveness is of that of the Normans in England. In India it is found conjoined with a degree of refinement seldom met with elsewhere, and totally free from the coarseness which in other countries usually besets vigour and boldness of design.

The peculiarities of this style are by no means confined to the capital: they prevail at Gazeepore, and as far north as Canouge, while at Benares the examples are frequent. In the suburbs of that city, at a place called the Bakaraya Kund,[1] there is a group of tombs and other buildings by the Moslems which are singularly pleasing specimens of the Jaunpore style.

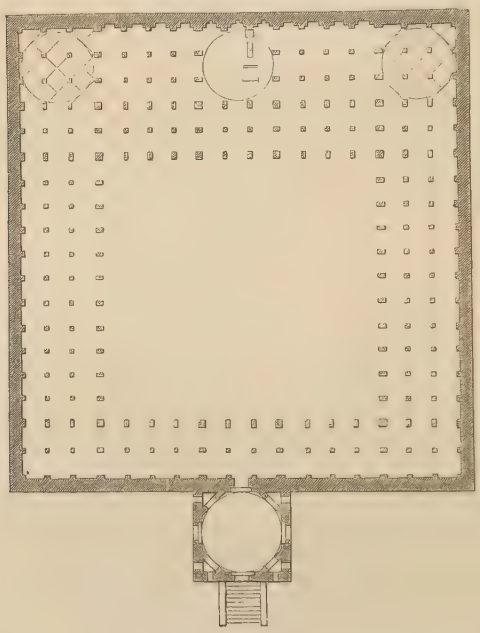
The kingdom of Jaunpore is also rich in little tombs and shrines in which the Moslems have used up Hindu and Jaina pillars, merely rearranging them after their own fashion. These, of course, will not bear criticism as architectural designs, but there is always something so indescribably picturesque about them as fairly to extort admiration. The principal example of this compound style is a mosque at Canouge, known popularly as "Sita ka Rasui," "Sita's kitchen." It is a Jaina temple re-arranged as a mosque, in the manner described at page 633. It measures externally 133 ft. by 120. The mosque itself has four rows of fifteen columns each, and three domes. The cloisters surrounding the court are only two rows in depth, and had originally

[1] J. A. S. B. for 1865. There, however, they are mistaken for Buddhist remains, which they are not.

sixty-eight pillars, smaller than those of the mosque. Externally it has no great beauty, but its pillared court is very picturesque and pleasing. According to an inscription over its principal gateway, its conversion was effected by Ibrahim Shah of Jaunpore, A.D. 1406.[1]

Mandoo.

The Ghori dynasty of Mandoo attained independence about the same time as the Sharkis of Jaunpore, Sultan Dilawar having assumed the title of Shah in 1401. After 133 years of independence and power, Malwa was incorporated with Guzerat in 1534, and finally annexed to Akbar's kingdom in 1568.



1105. Plan of Mosque at Mandoo. No scale.

The finest building in the city is the Jumma Musjid, commenced and nearly completed by Hoshang, the second king, who reigned from 1405 to 1432, which though not very large, is so simple and grand in outline and details, that it ranks high among the monuments of its class. Its dimensions are externally 290 ft. by 275, exclusive of the porch.

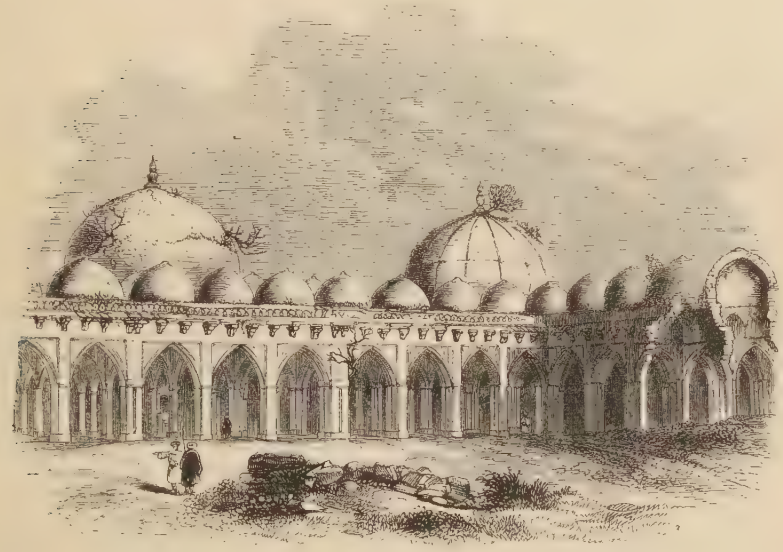
Internally the court-yard is almost an exact square of 162 ft., and would be quite so, were it not that two of the piers on the east and west faces are doubled. In other respects the four sides of the court are exactly similar, each being ornamented by eleven great arches of precisely the same dimensions and height, supported by piers or pillars each of one single block of red sandstone. The only variety attempted is, that the east side has two arcades in depth, the north and south three, while the west side, or that facing Mecca, has five, besides being ornamented by three great domes, each 42 ft. in diameter.

As will be seen on the plan (woodcut No. 1105), these large domes are supported each by twelve pillars. The pillars are all equally

[1] General Cunningham's Report for 1862-63.

spaced, the architect having omitted, for the sake of uniformity, to widen the central avenues on the intersection of which the domes stand. It follows from this that the four sides of the octagon supporting the dome, which are parallel to the sides of the court, are shorter than the four diagonal sides. Internally this produces a very awkward appearance; but it could not have been avoided except by running into another difficulty—that of having oblong spaces at the intersections of the wider aisles with the narrower, to which the smaller domes must have been fitted. Perhaps on the whole the architect took the less inconvenient course of the two.

The interior of the court is represented in woodcut No. 1106, and for simple grandeur and expression of power it may perhaps be taken



1106. Court-yard of Great Mosque at Mandoo. From a Sketch by the Author.

as one of the very best specimens now to be found in India. It is, however, fast falling to decay, and a few years more may deprive it of most of that beauty which so impressed me when I visited it in 1839.

The tomb of the founder, which stands behind the mosque, though not remarkable for size, is a very grand specimen of the last resting-place of a stern old Pathan king. Both internally and externally it is reveted with white marble, artistically, but not constructively applied, and consequently in many places peeling off. The light is only admitted by the doorway and two small windows, so that the interior is gloomy, but not more so than seems suitable to its destination.

On one side of the mosque is a splendid Dhurumsala, or hall, 230 ft. long, supported by three ranges of pillars, twenty-eight in each row.

These are either borrowed from a Hindu edifice, or formed by some native architect from stones originally Hindu, and on the north side is a porch which is avowedly only a re-erection of the pillars of a Jaina dome.

At Dhar, not far off, is a mosque similar to that at Canouge, though larger, and like it wholly composed of Hindu pillars re-arranged. The court-yard at Dhar is larger than at Canouge, which gives it a gayer appearance, but the solemnity of the other is more pleasing.

The palaces at Mandoo are quite as remarkable as the religious edifices, perhaps more so, but they have gone sadly to decay. Some of their larger vaulted halls are, however, still entire, and the courts are still surrounded by arcades of great beauty. In their solitude, overlooking the valley of the Nerbudda, they convey as vivid an impression of the ephemeral splendour of these Mahomedan dynasties as anything in India, and, if illustrated, would alone suffice to prove how wonderfully their builders had grasped the true elements of architectural design.

CHAPTER VI.

AHMEDABAD.

CONTENTS.

Jumma Musjid and other Mosques at Ahmedabad — Tombs and Mosques at Sirkej and Butwa — Architectural details.

CHRONOLOGY.

Muzaffar Shah, a Rajpoot, appointed Viceroy	A.D. 1391	Mahmood Shah Begurra	A.D. 1459
Ahmed Shah, his grandson, founds Ahmedabad	1411	Muzaffar Shah II.	1511
Mohammed Shah the Merciful	1443	Bahadur Shah murdered by Portuguese.	1526
Kutub Shah; war with Rana Khumbo	1454	Muzaffar Shah III.	1561
		Guzerat becomes a province of Akbar's kingdom	1583

Of the various forms which the Saracenic architecture assumed in India, that of Ahmedabad may probably be considered as the most elegant, as it certainly is the most characteristic of all. No other form is so essentially Indian, and no one tells its tale with the same unmistakable distinctness.

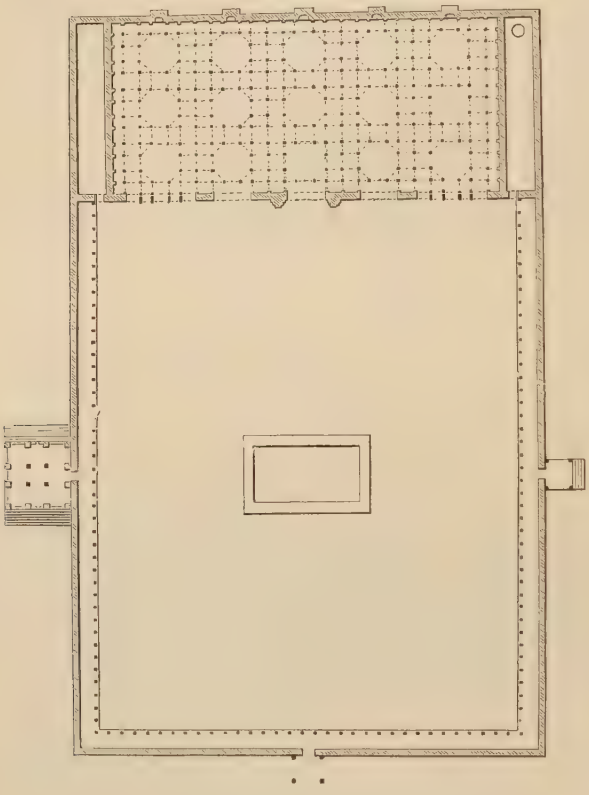
As mentioned above, the Mahomedans in the first century of the Hejira made a brilliant attempt to conquer Sinde and Guzerat, and apparently succeeded; but the country was so populous, and its civilization so great, that the invaders were absorbed, and soon disappeared from the scene.

Mahmood of Ghazni next overran the province, but left no permanent mark; and even after the fall of Delhi (1196) Guzerat maintained the struggle for independence for nearly two centuries longer, till Feroze Tugluk, in 1391, appointed Muzaffar, a converted Rajpoot, of the Tak clan, to be his viceroy. This, however, was only on the eve of the troubles caused by the invasion of Tamerlane, and, *mutato domino*, Guzerat remained as independent as before.

The next two centuries — during which the Ahmed Shahy dynasty occupied the throne — were spent in continual wars and struggles with their refractory vassals and the neighbouring chiefs. On the whole, however, their power may be said to have been gradually on the increase till the death of Bahadur, 1536, but they never wholly subdued the rebellious spirit of their subjects, and certainly never converted them to their faith. As a consequence of this, the buildings with which this chapter is concerned are almost all to be found in the

capital and its immediate proximity. Beyond that the Hindus followed their old faith and built temples as before.

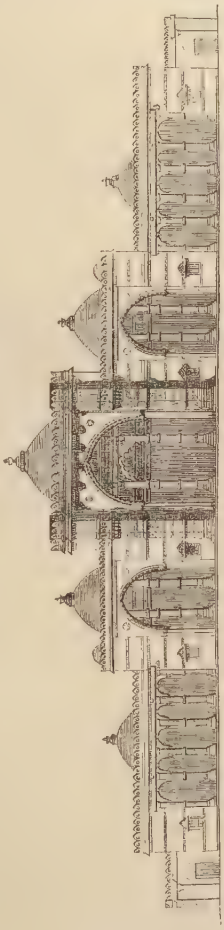
In Ahmedabad itself, however, the Hindu influence continued to be felt throughout. Even the mosques are Hindu, or rather Jaina, in every detail; only here and there an arch is inserted, not because it was wanted constructively but because it was a symbol of the faith, while in their tombs and palaces even this is generally wanting. The truth of the matter is, the Mahomedans had forced themselves upon the most civilized and most essentially building race at that time in India, and the Chalukyas conquered their conquerors, and forced them to adopt forms and ornaments which were superior to any the invaders knew or could have introduced. The result is a style which combines all the elegance and finish of Jaina or Chalukya art, with a certain largeness of con ception which the Hindu never quite attained, but which is characteristic of the people who at this time were subjecting all India to their sway.



1107. Plan of Jumma Musjid, Ahmedabad. Scale 100 ft. to 1 in.

The first seat of the Mahomedan power was Anhilwarra, the old capital of the Rajpoots, and which, at the time it fell into their power, must have been one of the most splendid cities of the East. Little now remains of all its magnificence, if we may trust what is said by recent travellers who have visited its deserted palaces. Ahmed, the second king, removed the seat of power to a town called Kurnawuttee, on which he bestowed his own name, and which with characteristic activity he set about adorning with splendid edifices. Of these the

principal was the Jumma Musjid, which, though not remarkable for its size, is one of the most beautiful mosques in the East. Its arrangement will be understood from the annexed plan (No. 1107). Its dimensions are 382 ft. by 258 over all externally; the mosque itself being 210 ft. by 95, covering consequently about 20,000 sq. ft. Within the mosque itself are 260 pillars supporting fifteen domes arranged symmetrically, the centre three alone being somewhat larger and considerably higher than the others. If the plan is compared with that of the temple at Sadree (woodcut No. 1087), which was being erected at the same time by Khumbo Rana within 160 miles of Ahmedabad, it will afford a fair means of comparison between the Jaina and Mahomedan arrangements of that day. The form of the pillars and the details generally are practically the same in both buildings, the Hindu being somewhat richer and more elaborate. In plan the mosque looks monotonous as compared with the temple; but this is redeemed to some extent by the different heights of the domes, as shown in the elevation (woodcut No. 1108), and by the elevation of each division being studiously varied. My own feeling is in favour of the poetry of the temple, but there is a sobriety about the plan of the mosque which, after all, may be in better taste. Both plans, it need hardly be remarked, are infinitely superior to the monotony of the southern halls of 1000 pillars. The latter are remarkable for their size and the amount of labour bestowed upon them, but it requires more than this to constitute architecture.



Elevation of the Jumma Musjid. Scale 50 ft. to 1 in.

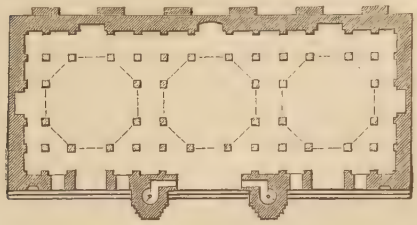
1108.

The general character of the elevation will be understood from the woodcut No. 1108, but unfortunately its minarets are gone. When Forbes[1] drew it they were still standing, and were celebrated in Eastern story as the shaking minarets of Ahmedabad; an earthquake in 1818 shook them too much, but there are several others still standing in the city from which their form can easily be restored.

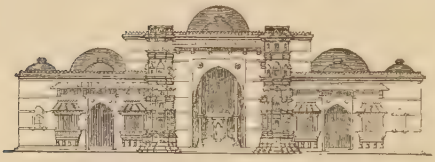
The plan and lateral extension of the Jumma Musjid are exceptional. The usual form taken by the mosques at Ahmedabad was that of the

[1] See Plate in Forbes' 'Oriental Memoirs,' vol. iii. ch. xxx.

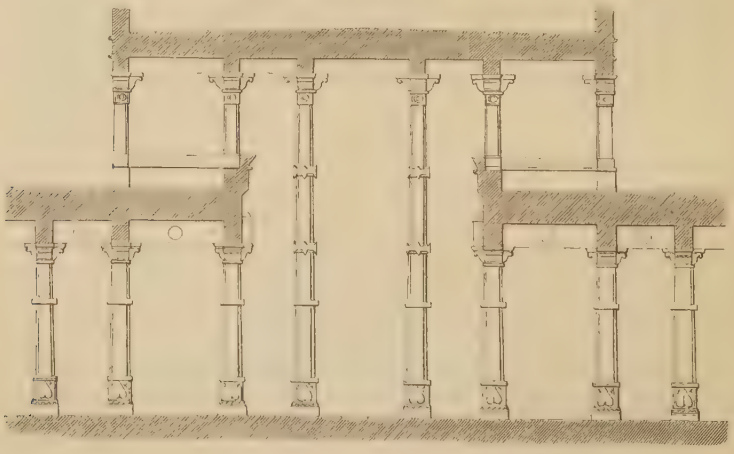
Queen's Mosque at Mirzapore, and consists of three domes standing on twelve pillars each, with the central part so raised as to admit light to the interior. The mode in which this was effected will be understood from the annexed diagram (No. 1111). The pillars which support the central domes are twice as high as those of the side domes, and two rows of dwarf columns stand on the roof to make up the height. In front of these internally is a solid balustrade, which is generally most richly ornamented by carving. Thus arranged it will be perceived that the necessary amount of light is introduced as in the drum of a Byzantine dome, but in a more artistic manner. The sun's rays can never fall on the floor, or even so low as the head of any one standing there. The light is reflected from the external roof into the dome, and perfect ventilation is obtained, and the most pleasing effect of light without glare. In order further to guard against the last dreaded contingency, in most of these mosques a screen of perforated stonework was introduced between the outer dwarf columns. These screens were frequently of the most exquisite beauty, and in consequence have very generally been removed.



1109. Plan of the Queen's Mosque, Mirzapore.
Scale 50 ft. to 1 in.



1110. Elevation of the Queen's Mosque, Mirzapore.
Scale 50 feet to 1 in.



1111. Section of Diagram explanatory of the Mosques at Ahmedabad.

There are three or four mosques at Ahmedabad, built on the same pattern as that last described, but as the style progressed it became more and more Indian. The arches in front were frequently omitted, and only a screen of columns appeared, supported by two minarets, one at each angle. This system was carried to its greatest extent at Sirkej, about five miles from the city. Mohammed Shah in 1445 commenced erecting a tomb (A on woodcut No. 1112) here, in honour of Ahmed Gunj Buksh, the friend and adviser of his father. The mosque (D) was completed in 1451, and Mahmood Begurra added afterwards a tomb for himself (B) and one for his wife Rajbaee (C). With their accompanying palaces and tombs these make up one of the most important groups in the neighbourhood. The whole are constructed without a single arch; all the pillars have the usual bracket capitals of the Hindus, and all the domes are on the horizontal principle. In the large tomb an attempt has been made to get a larger dome than the usual octagonal arrangement would admit of, but not quite successfully. The octagon does not accord with the substructure, and either wider spaces ought to have been introduced or a polygon of a greater number of sides employed. The mosque is the perfection of elegant simplicity, and is an improvement on the plan of the Jumma Musjid. There are five domes in a line, as there, but they are placed nearer to one another, and though of greater diameter the width of the whole is less, and they are only two ranges in depth. Except the Mootee Musjid at Agra, to be described hereafter, there is no mosque in India so remarkable for simple elegance as this.

Besides these larger mosques there are several smaller ones of great beauty, of which two—those of Mohafiz Khan and the Ranee Seepree—are pre-eminent. The elevation of the first is by no means happy, but its details are exquisite, and it retains its minarets, which is too seldom the case. As will be seen from the woodcut, as well as from those of the Jumma and Queen's Mosques (Nos. 1108, 1110), the lower part of the minarets is of pure Hindu architecture; all the bases at Ahmedabad are neither more nor less than the perpendicular parts of the basement of Hindu or Jaina temples elongated. Every form and every detail may be found at Chandravati or Abu, except in one particular—on the angles of all Hindu temples are niches containing images. This the Moslem could not tolerate, so he filled them with tracery. We can follow the progress of the development of this form, from the first rude attempt in the Jumma Musjid, through all its stages to the exquisite patterns of the Queen's Mosque at Mirzapore. After a century's experience they produced forms which as architectural ornaments will, in their own class, stand comparison with any employed in any age or in any part of the world; and in doing this they invented a class of window-tracery in which they were also unrivalled. The annexed specimen (woodcut No. 1114) from a window in a desecrated mosque

REFERENCES.

A. Tomb of Gunj Buksh.

B. Tomb of Mahmood Begurra and his Sons.

C. Tomb of Beebee Rájbaee, his Queen.

D. The Mosque.

E. Covered Gateway.

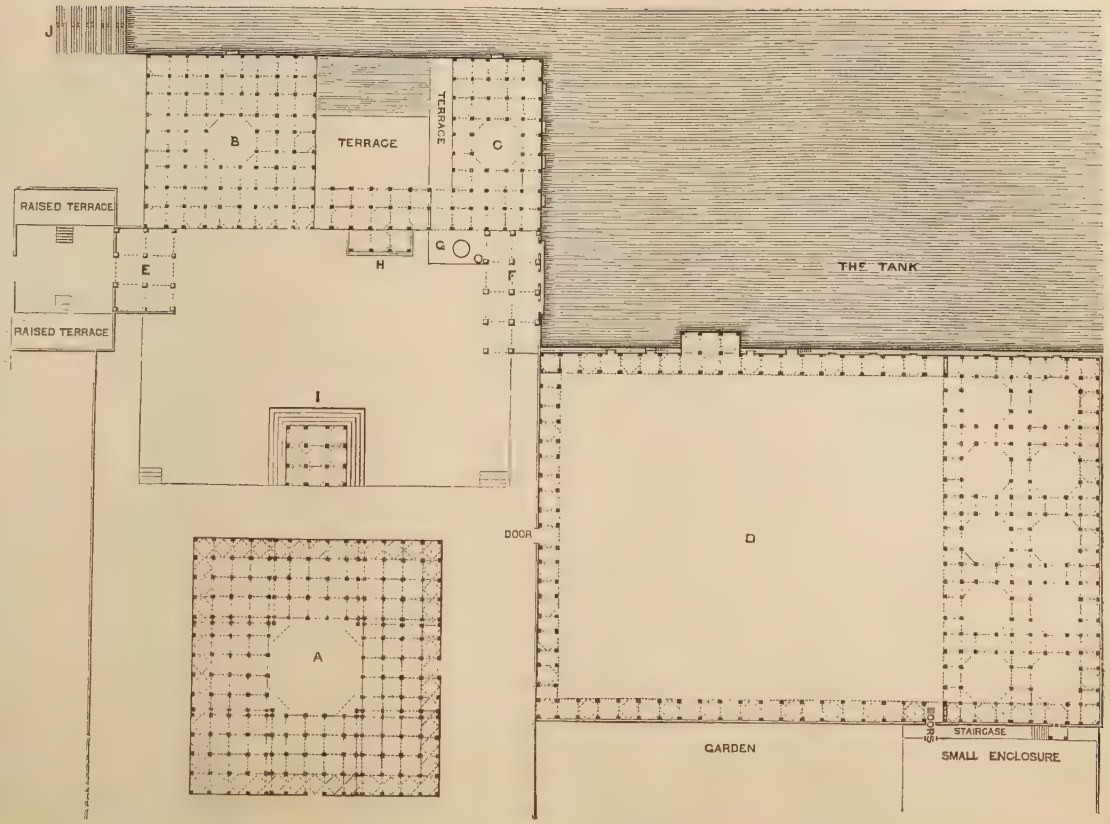
F. Covered Hall overlooking the Tank.

G. Well and Fountain.

H. Portico leading to Terrace and Steps down to the Tank.

I. Pavilion

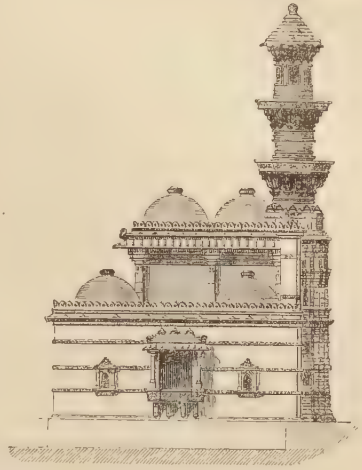
J. Portions of the Steps surrounding the Tank.



1112.

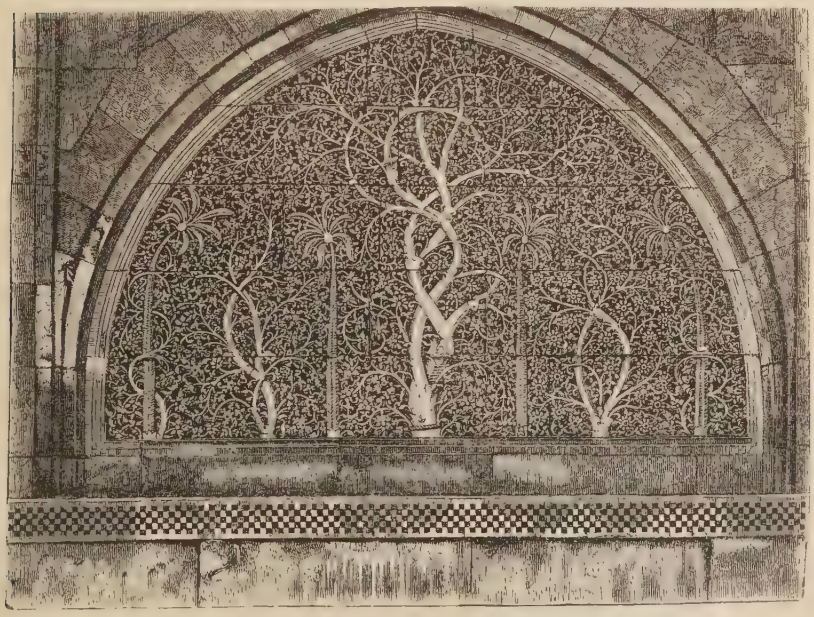
Plan of Tombs and Mosque at Sirkej, from a Sketch by T. C. Hope, Esq. Scale about 100 ft. to 1 in.

in the palace (the Bhudder) will convey an idea of its elaborateness and grace. It would be difficult to excel the skill with which the vegetable forms are conventionalized just to the extent required for the purpose. The equal spacing also of the subject by the three ordinary trees and four palms, takes it out of the category of direct imitation of nature, and renders it sufficiently structural for its situation; but perhaps the greatest skill is shown in the even manner in which the pattern is spread over the whole surface. There are some exquisite specimens of tracery in precious marble at Agra and Delhi, but none quite equal to this.



1113. Mosque of Mooháfiz Khan. Scale 25 ft. to 1 in.

Above the roof of the mosques the minarets are always round towers slightly tapering, as in the mosque of Mooháfiz Khan (woodcut No. 1113), relieved by galleries displaying great richness in the brackets which support them as well as in the balustrades which protect them. The tower always termi-

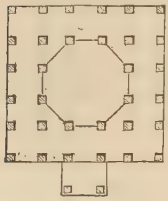


1114. Window in Bhudder at Ahmedabad. From a Photograph by Colonel Biggs.

nates in a conical top relieved by various disks. They are, so far as I know, the only minarets which surpass those of Cairo in beauty of outline or richness of detail, excepting those of the Rance Seepree mosque, which are still more beautiful. Indeed, that mosque is the most exquisite gem at Ahmedabad, both in plan and detail. It is without arches, and every part is such as only a Hindu queen could order, and only Hindu artists could carve.[1]

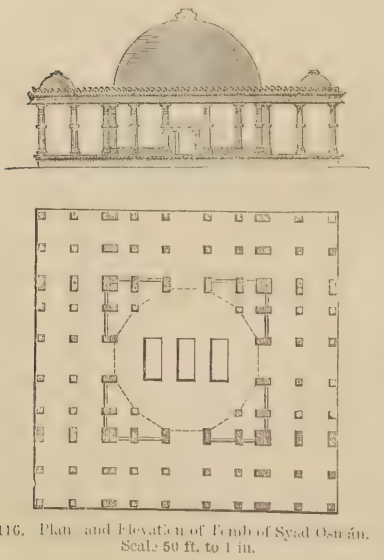
TOMBS.

Knowing the style, it would not be difficult to predicate the form of the tombs. The simplest would be that of Abu Tourâb; an octagonal dome supported on twelve pillars, and this extended on every side, but always remaining a square, and the entrances being in the centre of the faces. The difference between this and the Jaina arrangement is that the latter is diagonal (woodcut No. 1043), while these are square. The superiority of the Hindu mode is apparent at a glance. Not, it is true, in so small an arrangement as that last quoted, but in the tombs at Sirkej (woodcut No. 1112), the effect is so monotonous as almost to become unpleasing. With the Jains this never is the case, however numerous the pillars may be.



1115. Tomb of Meer Abu Tcurâb
Scale 50 ft. to 1 in.

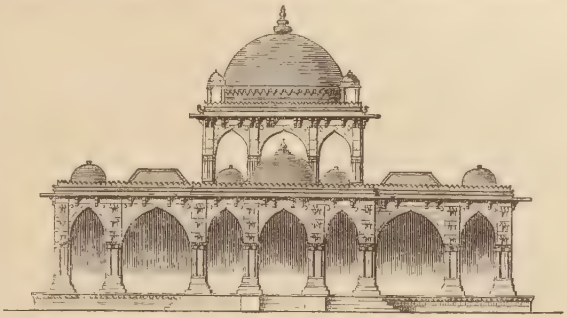
Besides the monotony of the square plan, it was felt at Sirkej—as already pointed out—that the octagonal dome fitted awkwardly on to its supports. This was remedied, to a great extent, in the tomb of Seyd Osman, built in 1460 by Mahmoud Begurra. In this instance the base of the dome is a dodecagon, and a very considerable amount of variety is obtained by grouping the pillars in twos and fours, and by the different spacing. In elevation the dome looks heavy for the substructure, but not so in perspective; and when the screens inclosed the central square, it was altogether the most successful sepulchral design carried out in the pillared style at Ahmedabad.



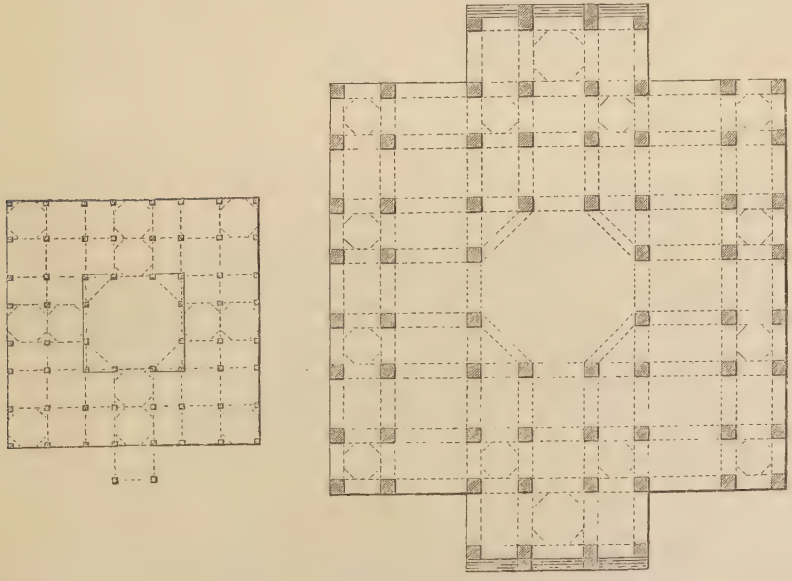
1116. Plan and Elevation of Tomb of Syad Osmân.
Scale 50 ft. to 1 in.

[1] As it is impossible by a woodcut to convey an impression of the beauty of these mosques, the reader is referred to the photographs of 'Architecture of Ahmedabad,' &c.

Towards the end of their career, the architects of Ahmedabad evinced a strong tendency to revert to the arched forms generally used by their brethren in other countries. Mahmoud Begurra built himself a tomb near Kaira which is wholly in the arched style, and remains one of the most splendid sepulchres in India. He also erected at Butwa, near Ahmedabad, a tomb over the grave of a saint, which is in every respect in the same style. So little, however, were the builders accustomed to arched forms, that, though the plan is judiciously disposed by placing smaller arches outside the larger, so as to abut them, still all those of the outer range have fallen down, and the whole is very much crippled, while the tomb without arches, that stands within a few yards of it, remains entire. The scale of the two, however (plan, No. 1118), reveals the secret of the preference accorded to the arch as a constructive expedient. The larger piers, the wider spacing, the whole dimensions, were on a grander scale than could be attained



1117. Tomb of Kootub-ul-Alum, Butwa. Scale 50 ft. to 1 in.



1118. Plans of Tombs of Kootub-ul-Alum and his Son, Butwa. Scale about 50 ft. to 1 in.

with beams only, as the Hindus used them. As the Greeks and Romans employed these features, any dimensions that were feasible with arches could be attained by pillars; but the Hindus worked to a smaller modulus, and do not seem to have known how to increase it. It must, however, be remarked that they generally used pillars only in courts, where there was nothing to compare them with but the spectator's own height; and there the forms employed by them were large enough. It was only when the Moslems came to use them externally, and in conjunction with arches and larger features, that their diminutive scale became apparent.

It is perhaps the evidence of a declining age to find size becoming the principal aim. But it is certainly one great and important ingredient in architectural design, and so thought the later architects of Ahmedabad. In their later mosques and buildings they attained greater dimensions, but it was at the expense of all that renders their earlier style so beautiful and so interesting.

Besides the buildings of the classes above enumerated, there are several smaller objects of art at Ahmedabad which are of extraordinary beauty. Among these are several bowlees, or deep wells, with broad flights of steps leading down to them, and ornamented with pillars and galleries to as great an extent as some of the largest buildings above ground. It requires a personal experience of the grateful coolness of a subterranean apartment in a hot climate to appreciate such a class of buildings, and in the rainy West we hardly know how valuable water may become.

Another object of architectural beauty is found in the inflow and outflow sluices of the great tanks which abound everywhere around the city. Nowhere did the inhabitants of Ahmedabad show how essentially they were an architectural people, as in these utilitarian works. It was a necessity of their nature that every object should be made ornamental, and their success was as great in these as in their mosques or palaces.[1]

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[1] For further particulars the reader is referred to the work entitled 'The Architecture of Ahmedabad,' published in the spring of this year by Mr. Murray. Its 120 photographic plates, selected out of 200, are far from exhausting the architecture of this city, but they convey a tolerable idea of its magnificence, and it would require at least 120 woodcuts instead of 12 to do justice to its merits in such a work as this.

CHAPTER VII.

BEEJAPORE AND THE DECCAN.

CONTENTS.

Buildings at Bidar and Golconda—Jumma Musjid, Beejapore—Tomb and Mosque of Ibrahim—Tomb of Mahmoud—Construction of Domes—Smaller Tombs.

CHRONOLOGY.

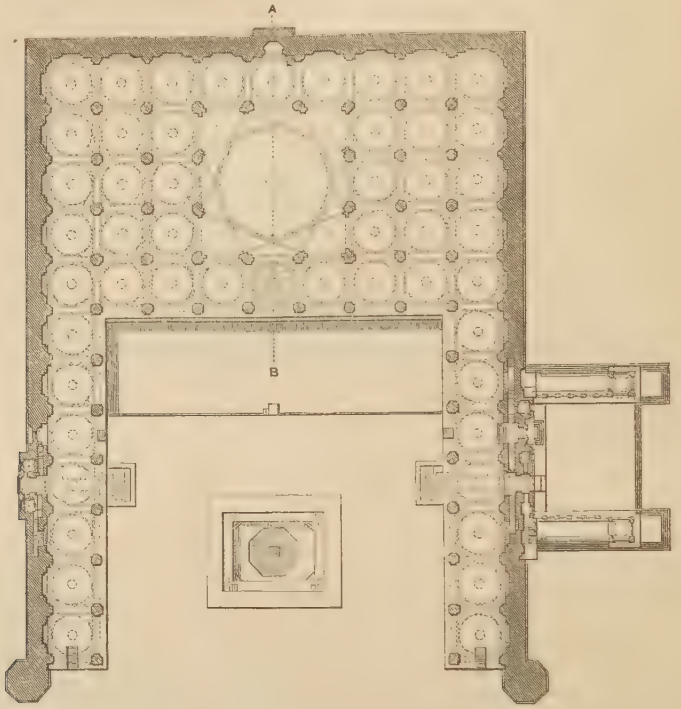
Ala ud-deen Bahmany conquers the Deccan	A.D. 1347	Ibrahim Adil Shah	A.D. 1535
Feroz Shah marries daughter of Vijyanagar Raja	1397	Ally Adil Shah	1557
Kasim Berid founds Berid Shahy dynasty at Bidar	1492	Ibrahim II. builds mosque and tomb	1579
Yousuf Khan founds Adil Shahy dynasty at Beejapore	1501	Mohammed builds Gol Gomuz	1626
		Ally Adil Shah II.	1660
		Abu Hasan, last king of Golcondah	1672

With the exception of that of Beejapore we know very little of the architecture of any of the capitals of the five or six kingdoms into which the conquests of the Mahomedans in the Deccan were divided, before they were all swept up in the great overgrown empire of Aurungzebe. It would, however, be extremely interesting to know something of the buildings of the Bahmany and Berid Shahy dynasties, as the first was founded a century and a half before Beejapore; and much that is now strange and unintelligible in the architecture of that city would admit of easy explanation, if we could trace its form backwards in the buildings of Kulbergah and Bidar, which were the earlier capitals.

We do know of some splendid buildings at Bidar, but they seem to be contemporary with those at Beejapore. Of Kulbergah we know nothing; but this city was a Hindu capital before it became the seat of the Bahmany power, and if its buildings have not been entirely swept away, there is no spot in the Deccan that ought to be more interesting. There is less to regret in our ignorance of the architecture of the later capitals. Ahmednuggur and Boorhanpore contain little or nothing of value, and the tombs of Golconda are only splendid exaggerations of the worst faults in the designs of the age. Among all these, Beejapore stands pre-eminent, and for certain qualities is unsurpassed among the Mahomedan capitals of India.

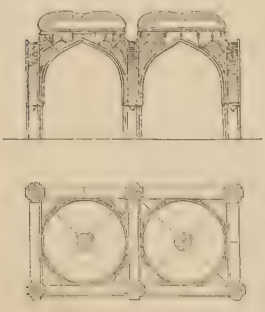
Yousouf, the founder of the Adil Shahy dynasty, was a Turk born in Constantinople, and though his mother was forced to fly and take refuge in Persia while he was still an infant, all his connexions and

associations were with the place of his birth and the race to which he belonged—circumstances which may account for much that is exceptional in the architecture of Beejapore.



1119. Plan of Jumma Musjid, Beejapore. From a Drawing by A. Cumming, C.E. Scale 100 ft. to 1 in.

For the first sixty or seventy years after their accession, the struggle for existence was too severe to admit of the Adil Shahys' devoting much attention to architecture. The real building epoch of the city commences with Ally, 1557, and all the important buildings are crowded into the 100 years which elapsed between his accession and the wars with Aurungzebe, which ended in the final destruction of the dynasty.



1120. Plan and Section of smaller Domes of Jumma Musjid. Scale 50 ft. to 1 in.

The Jumma Musjid was commenced by Ally Adil Shah, and though continued by his successors on the same plan, was never completely finished, the fourth side of the court-yard with its great gateway not having been even commenced when the dynasty was overthrown. Even as it is, it is one of the finest mosques in India.

As will be seen from the plan (woodcut No. 1119), it would have been, if completed, a rectangle of 331 ft. by 257. The mosque itself is perfect, and measures 257 ft. by 145, and consequently covers about 37,000 sq. ft.; but this is irrespective of the wings, which extend 186 ft. beyond, so that if complete it would have covered about 50,000 to 55,000 sq. ft., or about the usual size of a mediæval cathedral. It is more remarkable, however, for the beauty of its details than either the arrangement or extent of its plan. Each of the squares into which it is divided is roofed by a dome of very beautiful form, but so flat (woodcut No. 1120) as to be concealed externally in the thickness of the roof. Twelve of these squares are occupied in the centre by the great dome, 57 ft. in diameter in the circular part, but standing on a square measuring 70 ft. each way. The dimensions of this dome

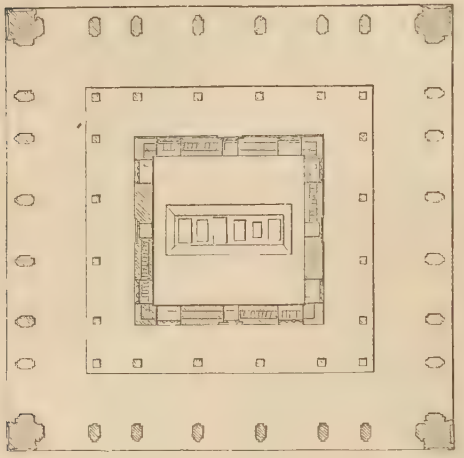
1121. Section on the line A B through the Great Dome of the Jumma Musjid. From a Drawing by Mr. Cumming. Scale 50 ft. to 1 in.

were immensely exceeded afterwards by that which covers the tomb of Mahmoud, constructed on the same plan and 124 ft. in diameter; but the smaller dimensions here employed enabled the architect to use taller and more graceful outlines, and if he had had the courage to pierce the niches at the base of his dome, and make them into windows, he would probably have had the credit of designing the most graceful building of its class in existence.

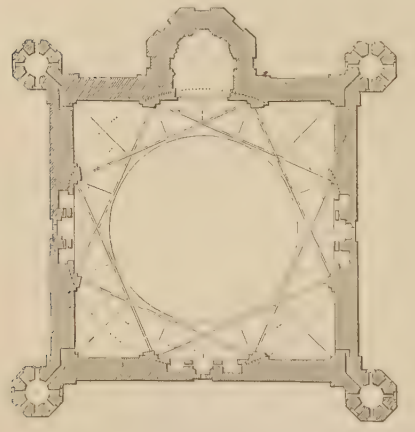
The tomb which this sovereign commenced for himself was a square, measuring about 200 ft. each way, and had it been completed as designed would have rivalled any tomb in India. It is one of the disadvantages, however, of the Turanian system of each king building his own tomb, that if he dies early his work remains unfinished. This defect is more than compensated in practice by the fact that unless a man builds his own sepulchre, the chances are very much

against anything worthy of admiration being dedicated to his memory by his surviving relatives.

His successor Ibrahim, warned by the fate of his predecessor's tomb, commenced his own, on so small a plan—116 ft. square—that, as he was blessed by a long and prosperous reign, it was only by ornament that he could render it worthy of himself. This, however, he accomplished by covering every part with the most exquisite and elaborate carvings. The ornamental inscriptions are so numerous that it is said the whole Koran is engraved on its walls. The cornices are supported by the most elaborate bracketing, the windows filled with tracery, and every part so richly ornamented that had his artists not been Indians it might have become vulgar. The principal apartment in the tomb is a square of 40 ft. each way, covered by a stone roof perfectly flat in the centre and supported only by a cove projecting 10 ft. from the walls on every side. How the roof is supported is a mystery which can only be understood by those who are familiar with the use the Indians make of masses of concrete, which with good mortar seems capable of infinite applications unknown in Europe. Above this apartment is another in the dome as ornamental as the one below it, though its only object is to obtain externally the height required for architectural effect, and access to its interior can only be obtained by a dark narrow stair in the thickness of the wall.



1122. Tomb or Rozah of Ibrahim. From a Plan by Mr. Cumming. Scale 50 ft. to 1 in.

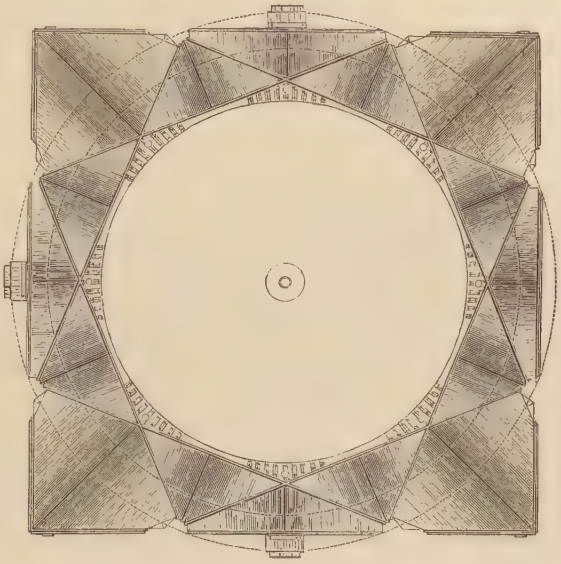


1123. Plan of Tomb of Mahmoud at Beejapore. Scale 100 ft. to 1 in.

Besides the tomb, there is a mosque to correspond; and the Royal garden, in which these are situated, is adorned, as usual, internally with fountains and kiosks, and

externally with colonnades and caravansaries for strangers and pilgrims, the whole making up a group as rich and as picturesque as any in India, and far excelling anything of the sort on this side of the Hellespont.

The tomb of his successor, Mahmoud, was in design as complete a contrast to that just described as can well be conceived, and is as remarkable for simple grandeur and constructive boldness as that of Ibrahim was for excessive richness and contempt of constructive proprieties. It is constructed on the same principle as that employed in the design of the dome of the great mosque (woodcut No. 1121), but on so much larger a scale as to convert into a wonder of constructive skill what, in that instance, was only an elegant architectural design.



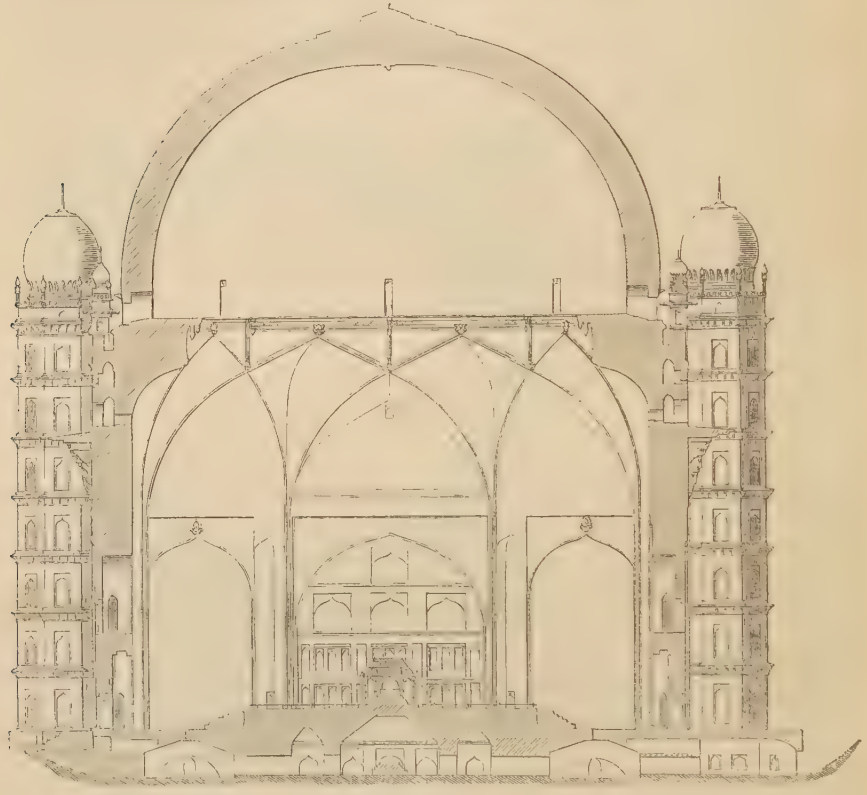
1124. Pendentives of the Tomb of Mahmoud, looking upwards. From a Drawing by Mr. Cumming. Scale 50 ft. to 1 in.

As will be seen from the plan, it is a plain square apartment, 135 ft. each way; its area consequently is 18,225 sq. ft., while that of the Pantheon at Rome is, within the walls, only 15,833; and even taking into account all the recesses in the walls of both buildings, this is still the larger of the two.

At the height of 57 ft. from the floor-line the hall begins to contract, by a series of pendentives as ingenious as they are beautiful, to a circular opening 97 ft. in diameter. On the platform of these pendentives the dome is erected, 124 ft. in diameter, thus leaving a gallery more than 12 ft. wide all round the interior. Internally, the dome is 175 ft. high, externally 198, its general thickness being about 10 ft.

The most ingenious and novel part of the construction of this dome is the mode in which its lateral or outward thrust is counteracted. This was accomplished by forming the pendentives so that they not only cut off the angles, but that, as shewn in the plan, their arches intersect one another, and form a very considerable mass of masonry perfectly stable in itself; and, by its weight acting inwards, counteracting any

thrust that can possibly be brought to bear upon it by the pressure of the dome. If the whole edifice thus balanced has any tendency to move, it is to fall inwards, which from its circular form is impossible; while the action of the weight of the pendentives being in the opposite direction to that of the dome, it acts like a tie, and keeps the whole in equilibrium, without interfering at all with the outline of the dome.



1125. Section of Tomb of Mahmoud at Beejapore. Scale 50 ft. to 1 in.

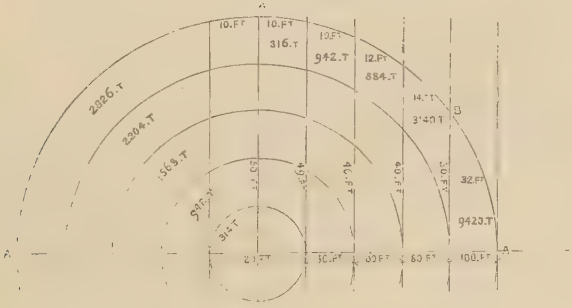
In the Pantheon and most European domes a great mass of masonry is thrown on the haunches, which entirely hides the external form, and is a singularly clumsy expedient in every respect compared with the elegant mode of hanging the weight inside.

Notwithstanding that this expedient gives the dome a perfectly stable basis to stand upon, which no thrust can move, still, looking at the section (woodcut No. 1125), its form is such that it appears almost paradoxical that such a building should stand. If the section represented an arch or a vault, it is such as would not stand one hour; but the dome is itself so perfect as a constructive expedient, that it is almost as difficult to build a dome that will fall as it is to build a

vault that will stand. As the dome is also, artistically, the most beautiful form of roof yet invented, it may be well, before passing from the most extraordinary and complex example yet attempted anywhere, to pause and examine a little more closely the theory of its construction.

Let us suppose the diagram to represent the plan of a perfectly flat dome 100 ft. in diameter, and each rim consequently 10 ft. wide.

Further assuming for convenience that the whole dome weighs 7850 tons, the outer rim will weigh 2826 tons, or almost exactly as much as the three inner rims put together; the next will weigh 2204, the next 1568, the next 942, and the inner only 314; so that a considerable extra thickness might be heaped on it, or on the two inner ones, without their preponderance at all affecting the stability of the dome; but this is the most unfavourable view to take of the case. To understand the case more clearly, let us suppose the semicircle A A A to represent the section of a hemispherical dome. The first segment



1126. Diagram illustrative of Domical construction.

of this, though only 10 ft. in width, will be 30 in height, and will weigh 9420 tons; the next, 10 ft. high and 10 wide, will weigh 3140; the third, 10 ft. by 6, will weigh only 1884; the fourth will weigh 942; and the central portion, as before, 316.

Now it is evident that the first portion, A B, being the most perpendicular, is the one least liable to disturbance or thrust, and, being also two-thirds of the whole weight of the dome, if steady and firmly constructed it is a more than sufficient abutment for the remaining third, which is the whole of the rest of the dome.

It is evident from an inspection of the figure, or from any section of the dome, how easy it must be to construct the first segment from the springing; and if this is very solidly built and placed on an immoveable basis, the architect may play with the rest; and he must be clumsy indeed if he cannot make it perfectly stable. In the East they did play with their domes, and made them of all sorts of fantastic forms, seeking to please the eye more than to consult the engineering

necessities of the case, and yet it is the rarest possible contingency to find a dome that has fallen through faults in the construction.

In Europe architects have been timid and unskilled in dome-building; but with our present engineering knowledge it would be easy to construct far larger and more daring domes than even this of Mahmoud's tomb, without the smallest fear of accident.

The external ordonnance of this building is as beautiful as that of the interior. At each angle stands an octagonal tower eight storeys high, simple and bold in its proportions, and crowned by a dome of great elegance. The lower part of the building is plain and solid, pierced only with such openings as are requisite to admit light and air; at the

1127. Audience Hall, Beejapore. From a Photograph.

height of 83 ft. a cornice projects to the extent of 12 ft. from the wall, or nearly twice as much as the boldest European architect ever attempted. Above this an open gallery gives lightness and finish to the whole, each face being further relieved by two small minarets.

The same daring system of construction was carried out by the architects of Beejapore in their civil buildings. The great Audience Hall, for instance (woodcut No. 1127), opens in front with an arch 82 ft. wide, which, had it been sufficiently abutted, might have been a grand architectural feature; as it is, it is too like an engineering work to be satisfactory. Its cornice was in wood, and some of its supports are still in their places. Indeed, it is one of the peculiarities of the architecture of this city that, like the English architects in their roofs, those of

Beejapore clung to wood as a constructive expedient long after its use had been abandoned in other parts of India. The Ashur Moobaruk, one of the most splendid palaces in the city, is entirely open on one side, the roof being supported only by two wooden pillars with immense bracket-capitals; and the internal ornaments are in the same material. The result of this practice was the same at Beejapore as in England—far greater depth of framing and greater richness in architectural ornamentation, and an intolerance of constructive awkwardness which led to the happiest results in both countries.

One of the principal edifices in the city is one of those seven-storeyed palaces which come across us so strangely in all out-of-the-way corners of the world. Add to this that the Ashur Moobaruk has been converted by the Mahomedans into a relic-shrine to contain some hairs of the Prophet's beard, and we have a picture of the strange difficulty of weaning a Tartar from the innate prejudices of his race.

Besides these two there are five other palaces within the walls, some of them of great splendour, and numberless residences of the nobles and attendants of the court. But perhaps the most remarkable civil edifice is a little gateway, known as the Mehturee Mehal ("the Gate of the Sweeper")—with a legend attached to it too long to quote here. It is in a mixed Hindu and Mahomedan style, every part and every detail covered with ornament, but always appropriate and always elegant. Of its class it is perhaps the best example in the country, though this class may not be the highest.

The gigantic walls of the city itself, 6¼ miles in circumference, are a work of no mean magnitude, and, combined with the tombs of those who built them, and with the ruins of the suburbs of this once great city, they make up a scene of grandeur in desolation, equal to anything else now found even in India.[1]

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[1] For further particulars the reader is referred to the folio work published this year illustrating the architecture of Beejapore. The work contains seventy-six photographic plates, thirty picturesque views taken by Col. Biggs, R.A., forty-six architectural drawings, plans, sections, and details of the principal buildings drawn by Mr. Cumming under Capt. Hart's superintendence.

CHAPTER VIII.

MOGUL ARCHITECTURE.

CONTENTS.

Mosques of Agra and Delhi—Tombs of Akbar, Taje Mehal, &c.—Palaces at Futtehpore Sicri, Agra, Delhi, and Allahabad—Imambara, Lucknow—Buildings at Hydrabad and Scringapatam.

CHRONOLOGY.

Baber mounted throne	A.D. 1494	Behadur Shah	A.D. 1707
Humayun	1521	Azuf Jah Nizam ul Mulk founds Hydrabad dynasty	1717
Akbar	1556	Shujah ud-Dowlah, Nawab of Oude	1756
Jehanjir	1605	Hyder Ali founds Mysore dynasty	1760
Shah Jehan	1628		
Aurungzebe	1658		

UNTIL very recently a description of the buildings included in this chapter would have been considered as an exhaustive account of the Saracenic architecture of India. We now know that the architecture of the Moguls was not the most elegant, and certainly not the most interesting form which the architecture of the Mahomedans took in that country; though, like the dynasty to which it belongs, it was undoubtedly the most splendid. In addition to their number and dimensions the edifices of the Moguls have several adventitious advantages which add much to their effect. The principal buildings of Agra and Delhi—the chief seats of the Mogul rule—were erected with the purest white marble, a material rarely employed by the Mahomedans in other parts of India; and the art of inlaying the ornaments in jasper, agates, blood-stone, and other precious stones, is peculiar to the style, and extremely beautiful in itself; while some, especially at Lahore, are covered with enamelled tiles like those of the Persians. Notwithstanding this, the Moguls erected nothing so elegant as the buildings at Ahmedabad, so elaborate as the Rozah of Ibrahim at Beejapore, or so grand constructively as the tomb of Mahmoud in the same city.

The Emperor Baber was too much occupied in consolidating his new empire to have leisure to build, and his son Humayun's reign was too full of troubles and revolutions to enable him to devote either time or money to this purpose; but the reign of Shere Shah—the usurper, as the Moguls call him—which intervened, and though only of five years'

duration, was remarkable for the beauty of its architecture. Though his reign was so short, his activity and love of art seems to have been most remarkable. Almost all his time seems to have been spent in war: yet he erected a palace at Agra, a mosque at Delhi, and his own tomb at Sassaram, described above (p. 654). All these are as remarkable for beauty of detail as for grandeur of design, and had no doubt very great influence on the style of architecture adopted by the dynasty which superseded his. All his works were, however, thrown into the shade by those of the great Akbar, who was one of the greatest monarchs that ever sat on an Indian or any other throne, and whose architectural works were as wonderful and characteristic as his literary or administrative ability. His buildings are, however, so peculiar, that it is impossible to describe them without an amount of illustration which is incompatible with this work. His style was, of course, based on that of Shere Shah, but Akbar seems to have been the first of the Delhi emperors who had sufficient liberality to wish to raise his Hindu subjects to the level of the Moslems, and, as a part of this scheme, the first who deliberately set to work to combine in architecture the beauties of the Hindu details with the constructive excellences of the Saracenic style. One example of this has already been mentioned in the temple at Bindrabun (woodcut No. 1073), but it was in his own buildings at Futtehpore Sicri, at Agra, Allahabad, and elsewhere, that the system was carried to perfection.

As already pointed out, something of the same sort occurred, *par force*, at Old Delhi when the Pathans first invaded India, and the strong Hindu feelings of their subjects forced the adoption of native art on the sovereigns of Ahmedabad, but these were accidents of the situation; Akbar's was a deliberate choice, and the result most successful.

In the reign of his two next successors, the vigorous originality of Akbar was toned down into the elegant effeminacy of the Taje Mehal and the palaces of Agra and Delhi: very beautiful, it must be confessed, but wanting in those higher qualities which ennoble the art when in the hands of a manlier and less luxurious race.

With Aurungzebe the decline set in steadily and rapidly, and before his death the art of the Moguls had perished. When that monarch was residing at Aurungabad between the years 1650–1657 he lost his favourite daughter, Rabia Dooranee, and, in honour of her memory, ordered his architects to reproduce an exact copy of his father's celebrated tomb, the Taje Mehal. They believed they were doing so, but the difference between the two monuments, even in so short an interval, is startling. The first stands alone in the world for certain qualities—not of the highest order: the second is by no means remarkable for any qualities of elegance or design, and narrowly escapes vulgarity and bad taste. In the beginning of the present century a more literal copy of the Taje was erected in Lucknow over the tomb of one of its sovereigns.

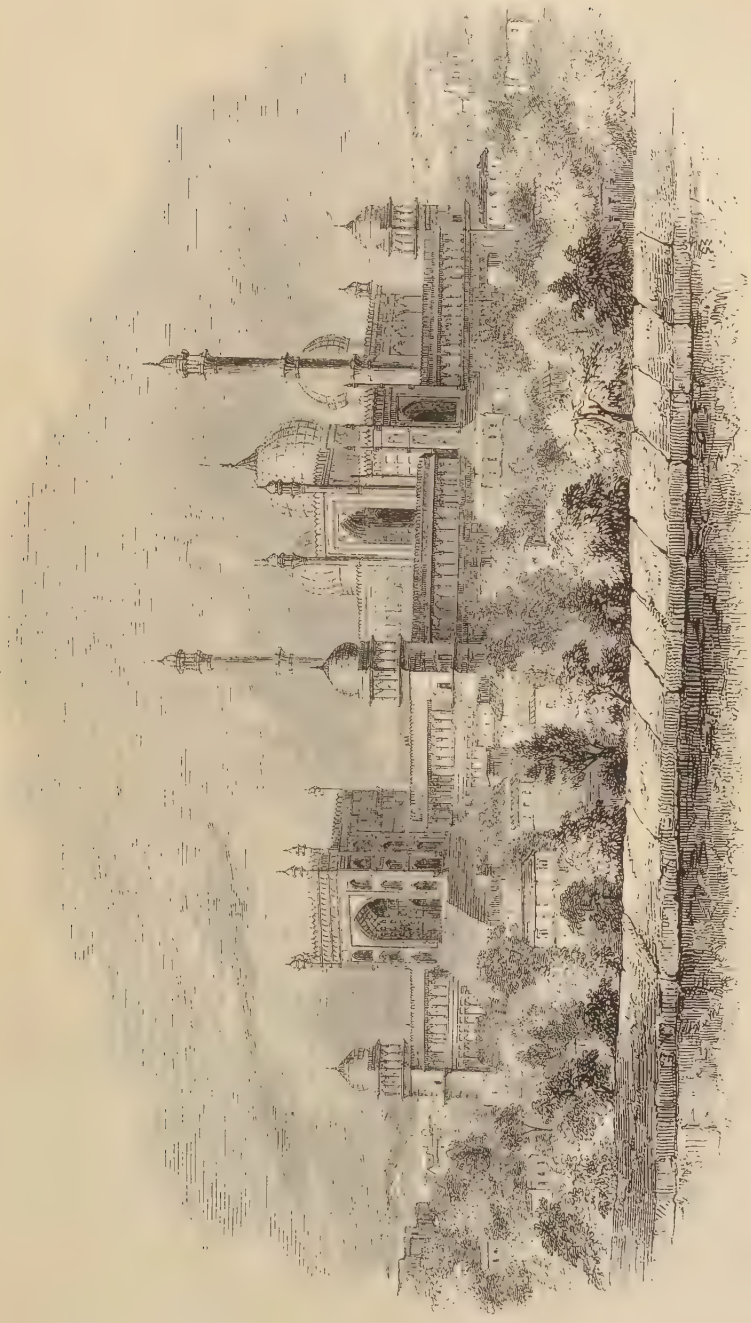
In this last, however, bad taste and tawdriness reign supreme. It is difficult to understand how a thing can be so like in form and so unlike in spirit; but so it is, and these three Tajes form a very perfect scale by which to measure the decline of art since the great Mogul dynasty passed its zenith and began its rapid downward career.

MOSQUES.

The mosques of the Moguls may generally be described as the elaboration of a pattern invented by the Pathans. Their great characteristic is the importance given to the mosque itself, and the subordination of all the other parts to it. Generally the Mogul mosque is a vaulted hall surmounted by three domes of the bulbous form which they introduced into India. From their shape these necessarily soon became false domes, not visible internally—a fault their predecessors never fell into. In most cases the central dome is largest, and the central portal more dignified than the rest. The arcades around the court, though elegant, are kept subdued in height, but these again are ornamented by three great gateways, the central one of which is larger and more ornamented than those on either side. All this makes up a design perfectly appropriate and intelligible, and if it were not for a certain emasculation of style, would be more beautiful than anything which preceded it: but in spite of their defects of *ensemble*, the old designs are still more satisfactory than the new.

One of the earliest of these Mogul mosques is that of Agra, built by the great Akbar before the style had lost its originality and vigour. Its worst fault is that it is low, and stands low, and has no minarets to relieve it. Its domes, too, are a sort of compromise between the flat dome of the Pathans and the tall forms subsequently introduced. They are nevertheless very beautiful objects in themselves, and appropriate to the buildings in which they are placed.

Akbar's grandest mosque is that which he erected at his favourite residence at Futtehpore Sicri; but in this instance the design is thrown out of harmony by the magnificence of its principal gateway. This is splendid object in itself—perhaps the finest in India; but, placed where it is, it dwarfs the mosque to which it leads, and prevents the body of the building from having that prominence which it ought to possess. It cannot, therefore, be considered as so complete a type of the style as the Jumma Musjid, or great Mosque of Delhi, built by Shah Jehan on removing the capital to its present site. Its appearance will be understood from the view on the next page, taken from one of the palace gates. It explains all the parts by which a mosque of this age was usually characterised—the western part with its lofty centre, three domes, and two minarets; the court-yard with its open colonnades,



Great Mosque at Delhi from the N.E. From a Sketch by the Author.

1128.

its towers at the angles, and three gateways, the eastern one being always more splendid than those on the north and south. The whole thus forms a group intelligible at the first glance, and as an architectural object possessing a variety of outline and play of light and shade which few buildings can equal.

The terrace on which this mosque is raised, as well as all its essential parts are constructed, of fine red sandstone, but the principal façade is ornamented with panels and bands of white marble, of which material the interior is almost wholly composed.

A mosque very similar was erected by Jehangir at Lahore, though it was probably not finished till the time of Aurungzebe, and seems now to be in a very dilapidated condition.

By far the most elegant mosque of this age—perhaps indeed of any period of Moslem art—is the Mootee Mesjid, or Pearl Mosque, built by Shah Jehan in the palace of Agra. Its dimensions are considerable, being externally 235 ft. east and west by 190 north and south, and the court-yard 155 ft. square.

Its mass is also considerable, as the whole is raised on a terrace of artificial construction, by the aid of which it stands well out from the surrounding buildings of the fort. Its beauty resides in its court-yard, which is wholly of white marble from the pavement to the summit of its domes. In design it somewhat resembles the great Delhi mosque represented in the last woodcut, except that the minarets are omitted, and the side gateways are only recesses. The western part, or mosque properly so called, is of white marble inside and out, and, except an inscription from the Koran inlaid with black marble as a frieze, has no ornament whatever beyond the lines of its own graceful architecture. It is, in fact, so far as I know, less ornamented than any other building of the same pretensions, forming a singular contrast with the late buildings of this style in Spain and elsewhere, which depend almost wholly for their effect on the rich exuberance of the ornament with which they are overlaid.

The bigoted Aurungzebe built many large and splendid mosques: but even in his day the style was visibly on the decline, and, though many gorgeous edifices of this class have since then been erected at Oude, Hydrabad, and other Moslem capitals, their style is so degraded and corrupt, that they will not bear to be mentioned with those we have been describing. It will be needless, therefore, to attempt to recapitulate their names and dimensions. Accordingly we proceed to speak of the tombs and other works of their nobler predecessors, which it is necessary to describe to make up a complete picture of the style.

Tombs.

It has been frequently remarked in the previous pages of this work, that the great architectural peculiarity of the Tartar or Mongolian races is their tomb-building propensity, in which they are so strongly distinguished from the Aryan, and also from the great Semitic families, with whom they divide the greater part of the habitable globe. Nowhere is this more forcibly illustrated than in India—where the tombs of the Pathans and Moguls form a complete and unbroken series of architectural monuments from the first years of the Moslem invasion to the present hour.

The tombs of the Pathans are less splendid than those of the Moguls: but nevertheless the whole series is singularly interesting, the tombs being far more numerous than the mosques. Generally speaking, also, they are more artistic in design, and frequently not only larger but more splendidly decorated than the buildings exclusively devoted to prayer.

The princes of the Tartar races, in carrying out their love of tombs, made it their practice to build their own in their lifetime. In doing this they rejected the Egyptian mode of preparing dark and deep chambers in the heart of the rock, or of the massive pyramid. The Tartars, on the other hand, built their sepulchres of such a character as to serve for places of enjoyment for themselves and their friends during their lifetime, and only when they could enjoy them no longer they became the solemn resting-places of their mortal remains.

The usual process for the erection of these structures is for the king or noble who intends to provide himself a tomb to enclose a garden outside the city walls, generally with high crenellated walls, and with one or more splendid gateways; and in the centre of this he erects a square or octagonal building, crowned by a dome, and in the more splendid examples with smaller and dome-roofed apartments on four of the sides or angles, the other four being devoted to entrances. This building is generally situated on a lofty square terrace, from which radiate four broad alleys, generally with marble-paved canals ornamented with fountains; the angular spaces are planted with cypresses and other evergreens and fruit-trees, making up one of those formal but beautiful gardens so characteristic of the East. During the lifetime of the founder, the central building is called a Barrah Durrie, or festal hall, and is used as a place of recreation and feasting by him and his friends.

At his death its destination is changed—the founder's remains are interred beneath the central dome. Sometimes his favourite wife lies beside him; but more generally his family and relations are buried beneath the collateral domes. When once used as a place of burial, its vaults never again resound with festive mirth. The care of the build-

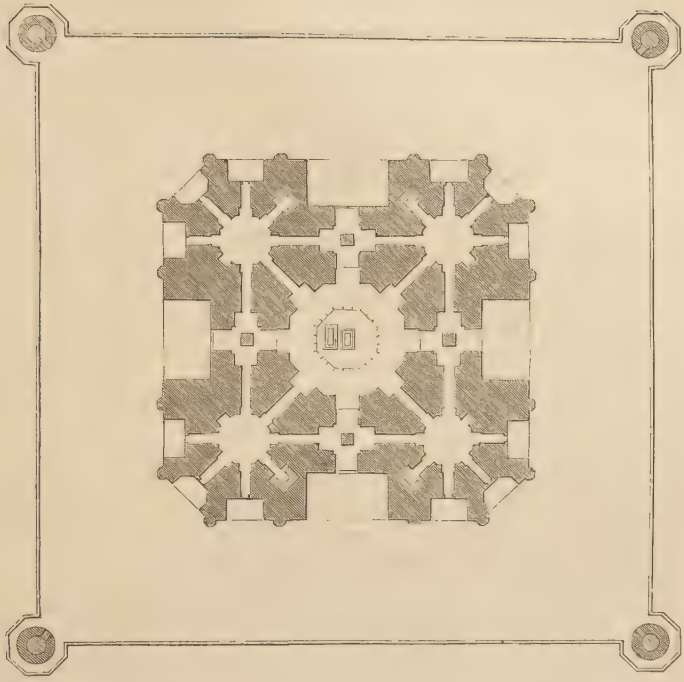
ing is handed over to priests and cadis, who gain a scanty subsistence by the sale of the fruits of the garden, or the alms of these who come to visit the last resting place of their friend or master. Perfect silence takes the place of festivity and mirth. The beauty of the surrounding objects combines with the repose of the place to produce an effect as graceful as it is solemn and appropriate.

Though the tombs, with the remains of their enclosures, are so numerous throughout all India, the Taje Mehal, at Agra, is almost the only tomb that retains its garden in anything like its pristine beauty, and there is not perhaps in the whole world a scene where nature and art so successfully combine to produce a perfect work of art as within the precincts of this far-famed mausoleum.

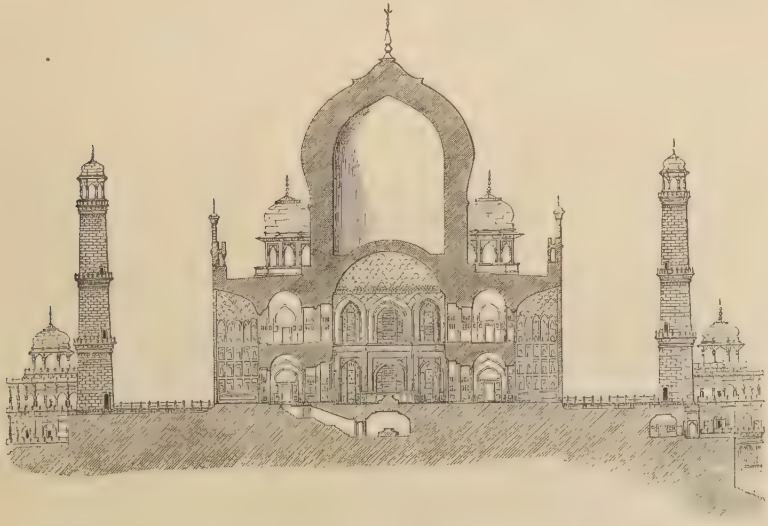
The tomb of Humayun Shah, the first of the Moguls who was buried in India, still stands tolerably entire among the ruins of Old Delhi, of which indeed it forms the principal and most striking object. That of Akbar, at Secundra, near Delhi, is, like all his buildings and doings, exceptional, and unlike those of any of his race, but still of great magnificence. The latter tomb is pyramidal in external form. The outer or lower terrace is 320 ft. square by 30 in height, and its architecture bold and massive. On this terrace stands another far more ornate, measuring 186 ft. or each side, and 14 ft. 9 in. in height. A third and fourth of similar design, and respectively 15 ft. 2 in. and 14 ft. 6 in. high, stand on this, all these being of red sandstone. Within and above the last is a white marble enclosure, 157 ft. each way, or externally just half the length of the lowest terrace, its outer wall entirely composed of marble trellis-work of the most beautiful patterns. Inside it is surrounded by a colonnade or cloister of the same material; in the centre of which, on a raised platform, is the tombstone of the founder, a splendid piece of the most beautiful arabesque tracery. This, however, is not the true burial-place; but the mortal remains of this great king repose under a far plainer tombstone in a vaulted chamber in the basement 35 ft. square, exactly under the simulated tomb that adorns the summit of the mausoleum.

The typical example of the tombs of this race is the celebrated Taje Mehal—the tomb which Shah Jehan erected at Agra, to contain the remains of his favourite wife, Moomtaza Mehal, meaning to erect a more splendid mausoleum for himself on the opposite side of the river. But this was not carried into effect, and he rests in this same sepulchre with his wife, she occupying the centre, a place of honour due to her precedence in the race of death.

The plan and section (woodcuts Nos. 1129, 1130) explain sufficiently the general arrangement and structural peculiarities of the tomb or principal building of the group. This is, however only a part of the whole design, and cannot be judged of by itself without its accompaniments. The enclosure, including the gardens and outer court,



1129. Plan of Taje Mehal, Agra. From a Plan by the Author. Scale 100 ft. to 1 in.



1130. Section of Taje Mehal, Agra. Scale 110 ft. to 1 in.

is a parallelogram of 1860 ft. by more than 1000.[1] The outer court, surrounded by arcades and adorned by four gateways, is an oblong, occupying in length the whole breadth of the enclosure by about 450 ft. in depth. The principal gateway, measuring 110 ft. by 140, leads from the court to the gardens, which, with their marble canals and fountains and cypress trees, are almost as beautiful as the tomb itself. The tomb stands on a raised platform 18 ft. high, faced with white marble, and exactly 313 ft. square. At each corner of this terrace stands a minaret 133 ft. in height, and of the most exquisite proportions, more beautiful perhaps than any other in India. In the centre of the marble platform stands the mausoleum, a square of 186 ft., with the corners cut off to the extent of 33 ft. 9 in. The centre of this is occupied by the principal dome, 58 ft. in diameter and 80 ft. in height, under which is an enclosure formed by a screen of trellis-work of white marble, a chef-d'œuvre of elegance in Indian art. Within this stand the two tombs. These, however, as is usual in Indian sepulchres, are not the true tombs—the bodies rest in a vault level with the surface of the ground (as seen in the section) beneath plainer tombstones placed exactly underneath those in the hall above.

In every angle of the building is a smaller dome of two storeys in height, 26 ft. 8 in. in diameter, and these are connected, as shown in the plan, by various passages and halls.

The light to the central apartment is admitted only through double screens of white marble trellis-work of the most exquisite design, one on the outer, and one on the inner face of the walls. In our climate this would produce nearly complete darkness; but in India, and in a building wholly composed of white marble, this was required to temper the glare that otherwise would have been intolerable. As it is, no words can express the chastened beauty of that central chamber, seen in the soft gloom of the subdued light that reaches it through the distant and half-closed openings that surround it. When used as a Barrah Durrie, or pleasure palace, it must always have been the coolest and the loveliest of garden retreats; and now that it is sacred to the dead, it is the most graceful and the most impressive of the sepulchres of the world.

This building is an early example of that system of inlaying with precious stones which became the great characteristic of the style of the Moguls after the death of Akbar. All the spandrils of the Taje, all the angles and more important architectural details, are heightened by being inlaid with precious stones, such as agates, bloodstones, jaspers and the like. These are combined in wreaths, scrolls, and frets, as exquisite in design as beautiful in colour; and, relieved by the pure

[1] The section has been engraved to a small scale of rather more than 100 ft. to 1 in. in order to bring it into the page.

white marble in which they are inlaid, they form the most beautiful and precious style of ornament ever adopted in architecture: though of course not to be compared with the intellectual beauty of Greek ornament, it certainly stands first among the purely decorative forms of architectural design. It is lavishly bestowed on the tombs themselves and the screen that surrounds them, though sparingly introduced on the mosque that forms one wing of the Taje, and on the fountains and surrounding buildings. The judgment, indeed, with which this style of ornament is apportioned to the various parts is almost as remarkable as the ornament itself, and conveys a high idea of the taste and skill of the Indian architects of this age.

Shah Jehan's successor, Aurungzebe, lies buried in a small hamlet just above the caves of Ellora. The spot is esteemed sacred, but the tomb is mean and insignificant beyond what would have sufficed for any of his nobles. He neglected, apparently, to provide for himself this necessary adjunct to a Tartar's glory, and his successors were too weak, even had they been inclined, to supply the omission. Strange to say, the sacred Tulsee-tree of the Hindus has taken root in a crevice of the brickwork, and is flourishing there as if in derision of the most bigoted persecutor the Hindus ever experienced.

In addition to these Imperial tombs, the neighbourhoods of Agra and Delhi are crowded with the tombs of the nobles of the court, some of them scarcely less magnificent than those of their masters. Among these, one erected by Etty mad doulah, the minister of Akbar, for himself, is one of the most splendid in elaboration, though far from being the most graceful in design. The whole is of white marble, and inlaid with precious stones in various patterns to a greater extent than even the Taje, or perhaps than any other building in India.

Besides these tombs, however, in the capital of the empire, there is scarcely a city of any importance in the whole course of the Ganges or Jumna, even as far eastward as Dacca, that does not possess some specimen of this form of architectural magnificence. Jaunpore and Allahabad are particularly rich in examples; but Patna and Dacca, possess two of the most pleasing of the smaller class of tombs that are to be met with anywhere.

Palaces.

It is true, perhaps, that in India the most characteristic form of Moslem art is that found in the tombs just described; but at the same time it must be admitted that Saracenic architecture in general is most distinctively represented by its palaces. It was for the display of luxurious splendour that the taste of the people was best suited, and it is consequently in the style displayed in their palaces, if anywhere, that they can best lay claim to pre-eminence. None of the races who have at any period embraced the religion of Mahomed were

capable of such a sustained effort of religious enthusiasm as that which gave rise to the Gothic art. Neither did they ever attain that permanent durability which gives to the Egyptian monuments such an expression of eternity; nor did they at any time possess the perception of intellectual beauty which at Athens produced the Parthenon. Their characteristic was more that of elegant and luxurious refinement. Their taste led them to splendour—to gorgeous pomp and ceremonial—rather than to those higher feelings which dignify the works of Western nations. Vulgar they never were, for vulgarity is unknown in the East, while a sense of the picturesque seems an inherent quality of the Asiatic mind—qualities which, combined with an almost feminine delicacy of expression, were admirably adapted to produce an exquisite style of palatial art; but one that could never reach either to sublimity, or to the manlier and nobler, though perhaps less refined, styles of Western Europe.

Very little now remains of the palaces built by the Pathans in India. The finest, and perhaps the best of these, was that built at Agra by Shere Shah, whose tomb at Sasseram is described above. It certainly belonged to the best age; and being built to adorn the newly-established capital, had probably all the art lavished upon it which that age afforded. Being the first, it had the misfortune to be placed on the highest spot within the walls of the fortress. Hence the present enlightened government of India, fancying this a good site for a barrack, pulled it down, and replaced it by a more than usually hideous brick erection of their own. This is now a storehouse, and looms in whitewashed ugliness over the marble palaces of the Moguls, a fit standard of comparison of the taste of the two races.

Judging from a fragment that remains, and the accounts received on the spot, this palace must have gone far to justify the eulogium more than once passed on the works of these Pathans—that "they built like giants, and finished like goldsmiths:" for the stones seem to have been of enormous size, and the details of most exquisite finish. It has passed away, however, like many another noble building of its class, under the ruthless barbarism of our rule. Mosques we have generally spared, and sometimes tombs, because they were unsuited to our economic purposes, and it would not answer to offend the religious feelings of the natives. But when we deposed the kings and appropriated their revenues, there was no one to claim their now useless abodes of splendour. And as it was found cheaper either to pull them down, or use them as residences or arsenals, than to keep them up, but very few remain for the admiration of posterity.

The troubled reign of Humayun does not seem to have been favourable to palace-building, at least on a permanent scale, though we learn from Ferishtah that he erected a great palace containing seven halls of audience, each dedicated to one of the seven planets; and that

he gave public audience in each of these according to the planet of the day. The building seems to have been splendid; but it may have been composed of ephemeral materials.

Akbar, however, was one of the greatest builders of his race, and left few of his capitals—except perhaps Delhi—without some fit monument of his greatness. His buildings are all very similar in style, but very unlike those either before or after his time. They do not possess the elaborate minuteness of the Hindus, nor the giant strength of the Pathans; still less do they show the refined elegance of the works executed under Shah Jehan; but they unite all these different qualities in a truly remarkable manner, standing as it were between two ages, and combining the feelings of two religions in a way that is not only very instructive, but has produced a style unrivalled in any part of the world.

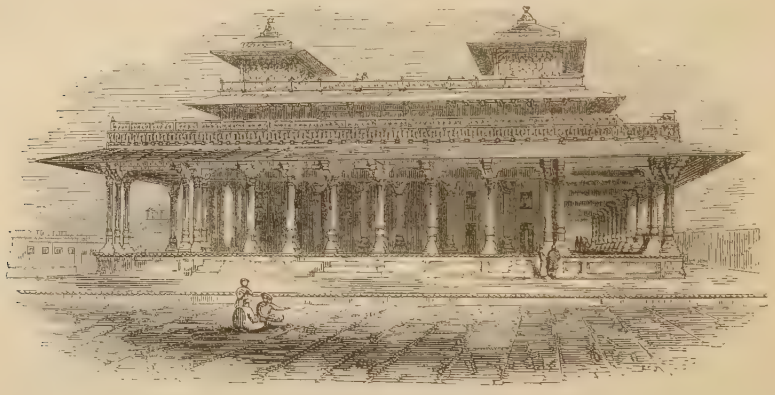
Akbar's favourite and principal residence was at Futtehpore Sicri, near Agra, where he built the great mosque mentioned above, and in its immediate proximity a palace, or rather a group of palaces, which in their way are more interesting than any other in India. No general design seems to have been followed in their erection; but pavilion after pavilion was added, and residences either for himself or for his favourite wives. These were built as the taste of the moment dictated, some in the Hindu, some in the Moslem style. The palace has no pretension to be regarded as one great architectural object; but as a picturesque group of elegant buildings it is unrivalled. All are built of the red sandstone of the hill on which the palace stands; no marble is used, and no stucco either inside or out, all the ornaments being honestly carved in relief on the stone, and the roofs as well as the floors all of the same material, and characterised by that singular Hindu-like aversion to an arch which Akbar alone of all the Moslem monarchs seems to have adopted.[1]

His palace at Agra is merely one pavilion, or rather *corps de logis*, and cannot therefore be compared with the great palace in size; but it is singularly elegant in detail, and, having escaped the fate of so many of the palaces of India, time has only softened without destroying the beauty of its features. Internally it encloses a court 71 ft. 2 in. square, one side of which is occupied by a hall 62 ft. 8 in. by 35 ft. 3 in. of almost purely Hindu design, and almost as elaborate and elegant in detail.

[1] How much of this palace now remains it is impossible to say. When I was there the Government were selling the stones at ten rupees the hundred maunds—a little less than it would cost to quarry them. I saw one of the noblest bowlees being so destroyed by the Company's servants, and its materials being carted away to build the wretched Barree of a neighbouring Zemindar. 200*l.* or 300*l.* might thus be added to a revenue of twenty-two millions, which, thanks to these Moguls, we are able to collect from the poorest peasantry in the world.

In the opposite side of the court is a smaller hall. The two remaining sides are occupied by two entrances with porches and halls. Beyond this an open court overlooks the river and the country on the other side of the Jumna. Like all his buildings, it is of red sandstone ornamented in relief, and generally without arches, thus forming a singular contrast to the marble halls of Shah Jehan, which adjoin it.

Allahabad was a more favourite residence of this monarch than Agra, perhaps even more than Futtehpore Sicri; but the English having appropriated the fort, its glories have been nearly obliterated. The most beautiful thing was the pavilion of the Chalees Sitoon, or forty pillars, so called from its having that number on the principal floor, disposed in two concentric octagonal ranges, one internal of sixteen pillars, the other outside of twenty-four. Above this, supported by the inner colonnade, was an upper range of the same number of pillars crowned by a dome. This building has entirely disappeared, its materials



1131. Hall in Palace at Allahabad. From a Drawing by Daniell.

being wanted to repair the fortifications. The great hall, however, still remains, represented in the annexed woodcut (No. 1131). It is now the arsenal; a brick wall has been run up between its outer colonnades with windows of English architecture, and its curious pavilions and other accompaniments removed; and internally, whatever could not be conveniently cut away is carefully covered up with plaster and whitewash, and hid by stands of arms and deal fittings. Still its plan can be made out; a square hall supported by eight rows of columns, eight in each row, thus making in all sixty-four, surrounded by a deep verandah of double columns with groups of four at the angles, all surmounted by bracket capitals of the most elegant and richest design, and altogether as fine in style and as rich in ornament as anything in India.

In this chapter we miss the name of Jehangir, Akbar's successor,

as a builder of either tombs or palaces. This, however, does not arise from his not having followed the instincts of his race, but because Lahore was his capital, and it is only very recently, and now only by photographs without plans or descriptions, that we learn how splendid his buildings were.

His mosque has already been alluded to, but this seems to have been surpassed by one erected in the city of Lahore by his vizir. It is in the Persian style, covered with enamelled tiles, and resplendent in colours, but not very graceful in form. His tomb, in which he lies buried with his queen, the imperious Noorjehan, was worthy of its builder, but has been used as a quarry by the Sikhs, and half the splendour of the temple at Amritsir is due to marbles plundered from this mausoleum. The palace too, which he erected, was worthy of his other buildings, but it has suffered as much as the rest. It has been used as a habitation from that time to this, and so altered, to adapt it to the wants of its successive occupants, that little of its original form remains.

At the other extremity of the empire Jehangir adorned the city of Dacca in Bengal with some splendid palaces and other edifices which still attest his magnificence, though now sadly neglected, and gone to decay. But in Agra and Delhi we have almost nothing that was erected by this monarch.

Shah Jehan, however, who succeeded Jehangir in 1628, made ample amends for his neglect of the great capitals of India, having built more than any of his race except perhaps the great Akbar. It is startling to find how complete a change of style had been effected in the short interval intervening between these two reigns. The truth seems to be that the current of Moslem art had advanced steadily from the beginning. Under Akbar an interruption took place, attributable to the bold originality and peculiarity of taste of that great monarch. On his death the Mahomedan style resumed its course, but made little progress under his feeble successor. On the accession of Shah Jehan it again flourished in all its magnificence. It was this king who built the present city of Delhi, with its great mosques and palaces, the latter the most perfect and complete examples of the style in India. When I saw it the spoiling hand of the English had not yet touched it, being still inhabited by the fainéant kings of the Mogul race. From this cause this palace was not so easily accessible to Europeans, and consequently not so well known, as that of Agra. Besides that, it is altogether of a somewhat later age, many of its buildings having been finished, and some added, by Aurungzebe, and tinctured by the decline of art that became apparent during his reign. The palace at Agra, though smaller and less complete, is perhaps even more interesting, being wholly of the best age. In the centre of it is a great court, 500 ft. by 370, surrounded by arcades, and approached at the opposite ends through a succession

of beautiful courts opening into one another by gateways of great magnificence. On one side of this court is the great hall of the palace—the Dewannee Khas—208 ft. by 76, supported by three ranges of arcades of exquisite beauty. It is open on three sides, and with a niche for the throne at the back. This, like the hall at Allahabad, is now an arsenal, and reduced to as near a similarity as possible to those in our dockyards. Behind it are two smaller courts, the one containing the Dewannee Aum, or private hall of audience, the other the hareem. The hall in the former is one of the most elegant of Shah Jehan's buildings, being wholly of white marble inlaid with precious stones, and the design of the whole being in the best style of his reign.

The greatest care, however, was lavished on the hareem court, which measures 170 ft. by 235. Three sides of this are occupied by the residences of the ladies, not remarkable for size, nor, in their present state, for architectural beauty; but the fourth, overhanging the river, is occupied by three white marble pavilions of singular elegance, though it is not easy now to see them, some English officer having pitched upon the principal one as as a residence, and having in consequence covered the polished marble and elegant arabesques of flowers inlaid in precious stones with thick coatings of that whitewash which was indispensable to his idea of comfort and elegant simplicity.

As in most Moorish palaces, the baths on one side of this court were the most elegant and elaborately decorated apartments in the palace. The baths have been destroyed, but the walls and roofs still show the elegance with which they were adorned.

The palace at Delhi is similar to this, but, being built by one king on a uniform plan, it is more regular, and on the whole certainly more magnificent. Its principal entrance faces the Chandnee Chouk, a splendid wide street, nearly a mile long, planted with two rows of trees, and with a canal of water flowing down its centre. Entering within the deeply-recessed portal you find yourself beneath the roof of a vaulted hall, similar in plan to a Gothic cathedral, many of which it exceeds in dimensions. In the centre it is crossed by another hall at right angles leading to the lateral courts, and at the upper end is the great court of the palace, rather larger than the one above described as existing at Agra. The whole forms perhaps the most noble entrance to a palace known to exist anywhere. Opposite to this great entrance is the Dewannee Khas, or principal hall, a finer and larger one than that at Agra, containing in its centre, directly facing the entrance, a niche richly ornamented, where on a platform of marble inlaid with precious stones once stood the famous peacock throne.

To the left of this great court is a smaller one, containing the private hall of audience, which is larger and richer than that at Agra, though not so elegant. It is round the frieze of this hall that the famous inscription runs, "If there is a heaven on earth, it is this, it is

this"—which may be safely rendered into the sober English assertion that no palace now existing in the world possesses an apartment of such singular beauty and elegance.[1]

To the left of this again are the gardens, laid out in the formal style of the East, and the little golden mosque, an elaborate and beautiful piece of art but far too small for such a palace, and very inferior to the Mootee Musjid at Agra. On the other side is the hareem court, to which no European is admitted; but if it bears the same relation to the rest as that at Agra, it must be the most splendid part of the whole.[2]

Along the river-front, as at Agra, are a number of marble pavilions, generally octagons, crowned with gilded domes, some of them of great beauty, but none, as far as can be seen, equal to that between the two inner courts at Agra. Of all Shah Jehan's buildings that is the most elaborate and the most highly ornamented, though perhaps for this very reason not the most to be admired; for though it is impossible to resist the fascination of so much ornament, all of the best kind and the richest materials, the forms and arrangements of the parts do not come up to the beauty of the buildings immediately surounding it.

We have scarcely any remains of Aurungzebe's own works, except, as before observed, a few additions to the palace at Delhi; but during his reign many splendid palaces were erected, both in the capital and elsewhere. The most extensive and splendid of these was that built by his aspiring but unfortunate son Dara Shekoh. It, however, was converted into the English residency; and so completely have plaster, whitewash, and improvements done their work, that it requires some ingenuity to find out that it was not wholly the work of the Anglo-Saxons.

In the town of Delhi many palaces of the age of Aurungzebe have escaped this profanation, but generally they are either in ruins or used as shops; and with all their splendour show too clearly the degradation of style which had then fairly set in, and which is even more apparent in the modern capitals of Oude, Hydrabad, and other cities which have risen into importance during the last hundred years.

Even these capitals, however, are not without edifices of a palatial class which from their size and the picturesqueness of their forms deserve attention, and to an eye educated among the plaster glories of the Alhambra would seem objects of no small interest and beauty. Few, however, are built of either marble or squared stone; most of them are of brick or rubble-stone, and the ornaments in stucco, which, coupled with the inferiority of their design, will always prevent their

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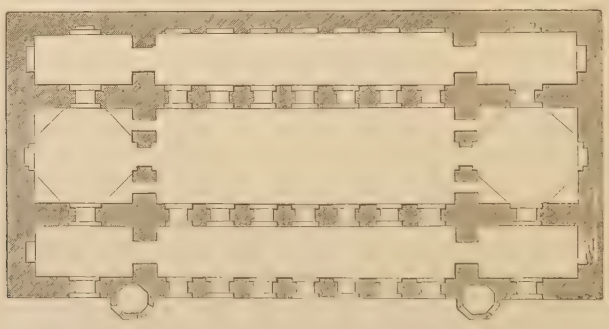
[1] The throne is a single block of rock crystal of exceeding elegance and beauty.

[2] So I wrote ten years ago. What I then dreaded has come to pass. When we took possession of Delhi after the mutiny the palace was entire. Since then the whole of the hareem courts have been swept away to make room for a range of barracks of the most approved pattern of these modern erections!

being admired in immediate proximity with the glories of Agra and Delhi.

In an exhaustive attempt to describe all the Saracenic styles of India a chapter ought probably to follow here, describing the buildings of these three cities, though it is questionable whether the style adopted in them does not rather belong to the volume which is devoted to those styles, designated in Europe, as if in mockery, "The Renaissance." Whatever may be the case in the West, in India there is no mistake about its being a "decadence" pure and simple; and no caricatures of architecture are so ludicrous or so bad as those in which Italian details are introduced, more especially at Lucknow, but also in the two other capitals. Still the tomb of Hyder Ali has, in spite of its details, a strong smack of the old solemn sepulchres of a better age; and in Lucknow there are some mosques and portals whose outline is still grand, though their details are detestable, and one building especially, the Imambara, which when not too closely looked into, is not unfit to be spoken of in the same chapter as the earlier buildings.



1132. Plan of Imambara at Lucknow. From measurements by the Author. Scale 100 ft. to 1 in.

As seen by the plan of the Imambara, the principal apartment is 162 ft. long by 53 ft. 6 in. wide. On the two sides are verandahs, respectively 26 ft. 6 in. and 27 ft. 3 in. wide, and at each end an octagonal apartment, 53 ft. in diameter, the whole interior dimensions being thus 263 ft. by 145. This immense building is covered with vaults of very simple form and still simpler construction, being of a rubble or coarse concrete several feet in thickness, which is laid on a rude mould or centering of bricks and mud, and allowed to stand a year or two to dry and set. The centering is then removed, and the vault, being in one piece, stands without abutment or thrust, apparently a better and more durable form of roof than our most scientific Gothic vaulting; certainly far cheaper and far more easily made, since it is literally cast on a mud-form, which may be moulded into any shape the fancy of the architect may dictate.

BOOK VI.

NAGA ARCHITECTURE OF CASHMERE AND CAMBODIA.

CHAPTER I.

CASHMERE.

CONTENTS.

Temples in Martund, Pandrethan, Payech, and Nousherah.

CHRONOLOGY.[1]

Asoka sends Missionaries to preach Buddhism—Inscription at Kapur di Giri about	B.C. 250	Baladitya, last of Gonerada race	A.D. 600
Damodara a Saiva transformed into a snake	100?	Naga dynasty	615
Huska Juska and Kaniska, Tartar princes, establish Buddhism . . . about	Christian Era	Salitaditya overran India	714
Gonerda III.—Naga worship resumed	A.D. 53	Salitaditya builds enclosure at Martund.	752
Nara persecuted Buddhists	89	Jayapira marries daughter of Jayanta of Gaur	814
Mahiracula invaded Ceylon	163	Avanti Verma builds Temple at Avantipore	890
Tunjina—a great famine	400	Partha, his minister, built Temple at Pandrethan . . . about	1000
Meghavahana invaded Ceylon	434	Xemagupta destroyed Viharas of Buddhists	1030
Metrigupta, a Brahmin of Ujjain	450	Alla Uddeen: Moslem conquest of Cashmere	1300
Ranaditya marries daughter of Chola Raja	550		

ALTHOUGH our knowledge of the architecture of Cashmere is still far from being complete, we know enough of it to feel sure that, when it and that of Cambodia are fully investigated, they will form one of the most interesting chapters in the history of architecture east of the Indus. If we do not know all we wish, we cannot in this instance complain that the architecture of Cashmere has not received its fair

[1] The whole of this chronology must be taken *cum grano*. The succession of events is certain, so are the initial and final dates. All those between may probably be considered as fixed within a possible error of fifty years one way or the other. My own impression is that they are generally about fifty years too ancient.

share of attention—indeed, considering the size and architectural importance of the temples, there is no Indian style which has been so thoroughly investigated.

In 1842, Mr. G. Vigne published a very full account of the temples of Cashmere, and Professor Willis attempted to explain their peculiarities.[1] Baron Hugel also wrote about them, and in 1848 General Cunningham published a tolerably exhaustive memoir in the Journal of the Asiatic Society of Bengal, with plans and sections &c., and last year the late lamented Bishop of Calcutta, with his chaplain, the Rev. A. Cowie, devoted a considerable amount of time and trouble to their investigation.[2] Photography has also lately come to our aid, so that the external form of the temples is tolerably well known; it is only when we come to ask to what religion they were dedicated, and whence the style was derived, that our information fails. The origin of the style is one of the most interesting questions, inasmuch as it can scarcely be doubted that its fluted columns with their bases and capitals are derived from Greek models. At present it must suffice to say that these models were found in the neighbouring Greek kingdom of Bactria. True, no examples have yet been discovered there; but this cannot be considered as a proof that they do not exist, till the country has been more carefully examined.

The question as to the religion to which they are dedicated is more complicated. They certainly are not Buddhist, though we know that that religion flourished in the valley about the time they were erected, and Hiouen Thsang lingered there for two years studying the law, though he admits that when he was there in the 7th century the king was not a follower of that religion, and that the country was full of heretics. Nor are they Hindu. No images of the gods of that religion are found, nor do any of the sculptures of the old temples indicate any tendency towards that religion. At one time I thought they might be Jaina, as that faith is latitudinarian enough to gather up the waifs and strays of any other faith; but a more intimate acquaintance has dispelled that illusion, the fact being that they were almost undoubtedly dedicated to Snake or Naga worship.

The first hint that this might be the case is found in General Cunningham's memoir. After pointing out their most striking peculiarity, which is that all the temples stand now in the water or in

[1] 'Travels in Kashmeer, Ladakh, and Iskardo.' Bentley, 1842.

[2] Before starting for England round the Cape, Mr. Cowie left his descriptions and illustrations with the President of the Asiatic Society of Bengal, with the understanding that the papers should be sent so as to reach England before he did in April last. Since then I have been anxiously expecting them by every mail, but by some strange mischance they have not reached England yet (1 Nov.), and no number of the Journal has been published this year. I regret that in consequence I am deprived of one of the most valuable sources of information on which I confidently relied.

court-yards which were capable of being filled with water, he adds, "The object of erecting the temples in the middle of water must have been to place them more immediately under the protection of the Nagas, or human-bodied and snake-tailed gods, who were zealously worshipped for ages throughout Kashmere,"[1] and there can be very little doubt but that this is the secret of the case. As long ago as 1825, Professor H. H. Wilson pointed out how prevalent Snake-worship was in this corner of India down to the period of the Mahomedan conquest.[2] Besides the numberless passages in the Cashmere history bearing on the subject, he refers to the well-known passage in Strabo,[3] who, quoting from Onesicritus, tells us that the king of Cashmere in the time of Alexander worshipped two great dragons (δρὰκοντας δυο), and Maximinus of Tyre[4] repeats the same story of Taxilus, the king of Taxila (Tacshasilas), near Manikyala, which was then the capital of the Punjab. The most direct testimony, however, is that of Abulfazl, who tells us that in Akbar's time there were in Cashmere forty-five places dedicated to the worship of Siva, sixty-four to Vishnu, three to Brahma, and twenty-two to Durga; but that there were seven hundred places in the valley where there were carved images of snakes which the inhabitants worshipped.[5] There is a Purana—the Nila or blue—continually referred to in the Raja Tarangini, which is especially devoted to Snake-worship.

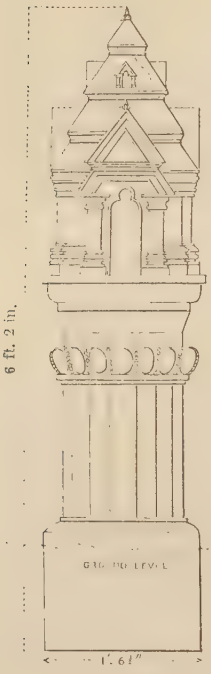
Much more evidence might be adduced, if this were the place for it. All that is required here, however, is to indicate the facts. The great interest which the subject contains refers more directly to the buildings in Camboja than to those of Cashmere, as will be apparent when we come to speak of these; but it is far from being devoid of application to India itself. Very many of the legends of the Mahabharata and of the Buddhist scriptures refer to the destruction, the expulsion, or the conversion of the Nagas. The mission which the Aryans set themselves to fulfil seems to have been specially the destruction of the Snake-worshippers. The Buddhists did better, for they converted them. Wherever you go in Buddhist countries—in Ceylon, in India, or in Tartary—under the modern Buddhist crust you find the old primæval worship of the snake underlying it everywhere. Wherever the Ascetic religion really prevailed it was practically extinguished, but in India it crops up again everywhere in the Vishnave and Jaina religions. No temple of either of these faiths is without its complement of seven-headed snakes; frequently they are the most prominent objects in the temple, though never in India the most important, and in no part of that country except in Cashmere do we find temples dedicated exclusively to this worship.

[1] J. A. S. B., vol. xvii. p. 273.
[2] Analysis of the Raja Tarangini, 'Asiatic Researches,' vol. xv. p. 1 *et seq.*
[3] Strabo, lib. xv. p. 698.
[4] 'Maximi Tyrii Dissertationes,' Diss. viii., ed. Lip., p. 140.
[5] 'Ayeen Akbaree,' Gladwin's Translation, p. 137.

Temples.

Before proceeding to speak of the temples themselves it may add to the clearness of what follows if we first explain what the peculiarities of the styles are. This we are able to do from a small model in stone of a Cashmere temple (woodcut No. 1133) which was drawn by General Cunningham; such miniature temples being common throughout India, and in all instances exact copies of their larger prototypes.

The temple in this instance is surmounted by four roofs (in the built examples known there are only two or three), which are obviously copied from the usual wooden roofs common to most buildings in Cashmere, where the upper pyramid covers the central part of the building, and the lower a verandah, separated from the centre either by walls or merely by a range of pillars.[1] In the wooden examples the interval between the two roofs seems to have been left open for light and air; in the stone buildings it is closed with ornaments. Besides this, however, all these roofs are relieved by dormer windows, of a pattern very similar to those found in mediæval buildings in Europe; and the same steep, sloping lines are used also to cover doorways and porches, these being virtually a section of the main roof itself, and evidently a copy of the same wooden construction.



1133. Model of Temple in Cashmere.

The pillars which support the portico and the one on which the model stands are by far the most striking peculiarity of this style, their shafts being almost identical with those of the Grecian Doric, and wholly unlike anything found in any other part of India. Generally they are from three to four diameters in height, diminishing slightly towards the capital, and adorned with sixteen flutes, rather shallower than those of the Grecian order. Both the bases and capitals are, it is true, far more complicated than would have been tolerated in Greece, but at Pæstum and in Rome we find with the Doric order a complexity of mouldings by no means unlike that found here. These peculiarities are still more evident in the annexed representation of a pillar found in Serinagar, which is a far more highly ornamented example than the last, but equally classical in its details, and, if anything, more unlike any known examples of true Hindu architecture. Nowhere in Cashmere do we find any trace of the bracket capital of the Hindus, nor of

[1] See drawing of mosque by Vigne, vol. i. p. 269; and also J. A. S. B., 1848, p. 253, containing Major A. Cunningham's paper on the subject, from which this and most of the following woodcuts are taken.

the changes from square to octagon, or to the polygon of sixteen sides, and so on. Indeed, whether the affinity to the Greek be or be not conceded, it is quite certain that no trace of such an order is found in India Proper. May it not be regarded as a remnant of the Greek kingdom of Bactria, altered, it is true, in the lapse of centuries, but still retaining unmistakable marks of its origin?

1134. Pillar at Serinagar. From a Drawing by W. Carpenter, Esq.

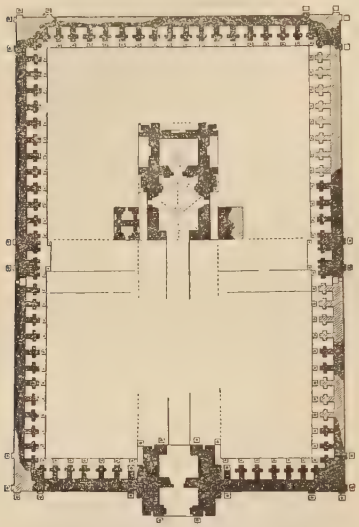
There is still one other peculiarity of this style which it is by no means easy to account for. This is the trefoiled arch, which is everywhere prevalent, but which in our present state of knowledge cannot be accounted for by any constructive necessity, nor traced to any foreign style from which it could have been copied. My own impression is that it is derived from the façades of the Chaitya halls of the Buddhists. Referring, for instance, to woodcut No. 993, it will be perceived that the outline of the section of the cave at Ajunta, which it represents, is just such a trefoil as is everywhere prevalent in Cashmere, and, as both there and everywhere else in India, architectural decoration is made up of small models of large buildings applied as decorative features wherever required, it is by no means improbable that the trefoiled façade may have been adopted in Cashmere as currently as the simple horse-shoe form was throughout the Buddhist buildings of India Proper. All these features, however, mark a local style differing from anything else in India, pointing certainly to another race and another religion, which we are not as yet able to trace to its source.

The architectural history of Cashmere commences with the Gonerdya line, who were restored to power about the middle of the 5th century: one of these, Ranaditya, is said to have built or commenced the temple at Martund, which was completed by Lalitaditya, a king of another dynasty, who in the middle of the 8th century avowedly added the enclosure. We have no means of knowing whether the ruin which now remains includes any part of the older erection. It is the finest building in the valley, and is at least as old a sthe last-named date, and possibly, in part at least, three centuries earlier.

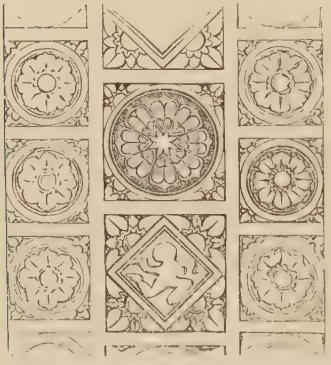
As will be seen by the annexed plan (woodcut No. 1135), the temple consists of a *vimana* with its cell, an *antarala* or pronaos, and *mantapa* or porch. It has two wings, which are peculiar, but seem to have been joined to the main façade, so as to give it breadth, and possibly also

height; for they are solid in their construction, and both now incline outwards, as if their superincumbent mass had been too heavy for their foundations.[1]

No trace of the roof remains, which led the Baron Hugel to conjecture that it never had one. This General Cunningham disputes: and the most probable supposition seems to be that it was of wood, and has perished, or, like some of those in the south, it may have been constructed of badly burnt bricks, which have decayed. We thus lose the effect of the internal roof, which, judging from other examples, was probably the richest and most ornamental part of the whole composition. But the soffit of the entrance arch, which was a part of the same design, still remains, and being protected from the effects of the weather by its position, its decoration can be easily made out. The annexed sketch shows the arrangement: a row of panels in the centre, alternately circular and square, and a row of smaller circles on either side, with lotus-flowers in each. It is difficult to say whether Hindu or Classical feeling most pervades the design.[2]



1135. Temple of Martund. From a Drawing by General A. Cunningham.



1136. Soffit of Arch at Martund. From a Sketch by the late Mr. Wilson, B.C.S.

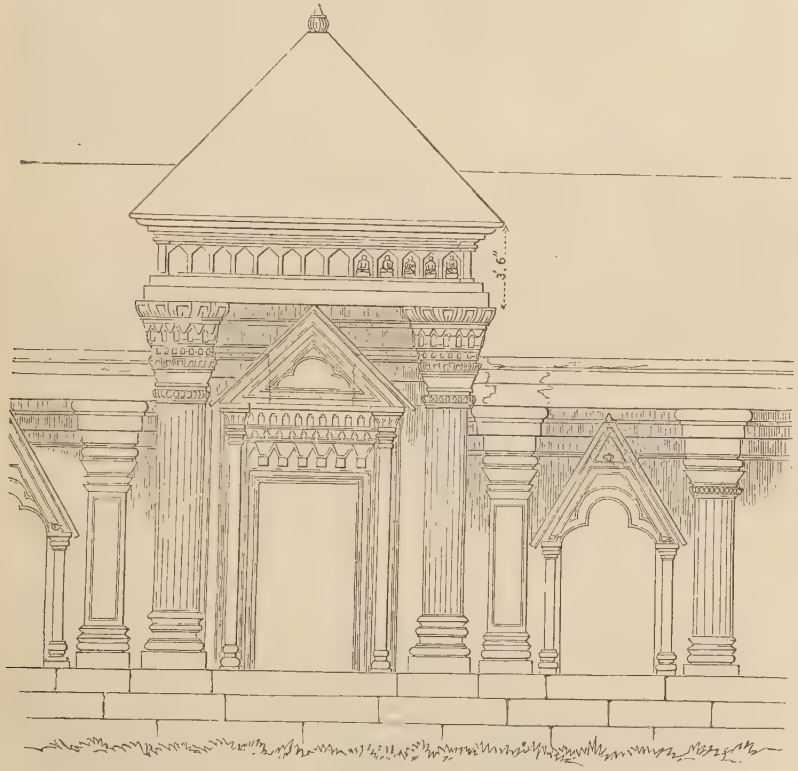
The enclosure surrounding the temple is very remarkable. Though in ruins its original design can be easily made out. Its internal dimensions were 220 ft. by 142; the number of pillars 84—a sacred number with the Hindus. Between each pair was a cell, more like those of the Jaina temples than any other arrangement we are acquainted with.

In front of the temple was the great gateway, of which only the foundation remains; but in the centre of each side of the court was a

[1] Its plan is more like that of Solomon's Temple, as rebuilt by Herod, than any other building we are acquainted with.

[2] The drawing from which this soffit and the pillar at Avantipore were taken was kindly lent me for the purpose by the Rev. Mr. Cowie.

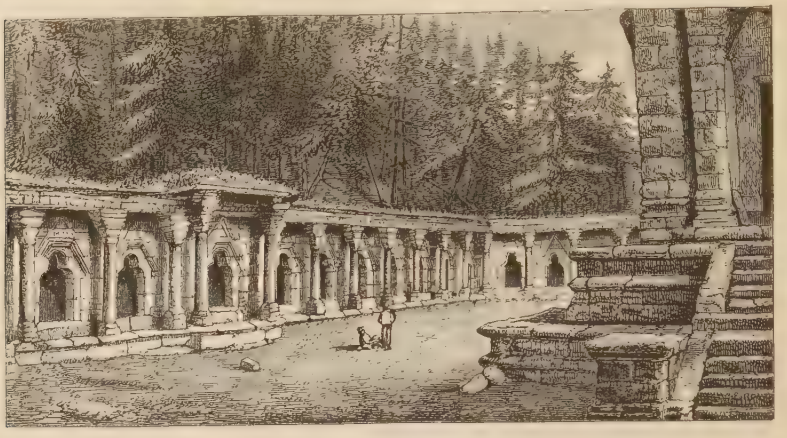
cell more important than the rest, probably resembling the great gateway in design. One of these, with the niche on its side, is shown in the annexed woodcut (1137), and shows most of the peculiarities of the style—the straight pyramidal roof, the Doric-like shafts, here loaded with enormous capitals, but still with ornaments familiar to the student of Greek art; the straight-lined pedimented doorway; and more especially the trefoiled arch, which is so constant a characteristic:—all features unlike anything else in India, and pointing to a foreign style mixed up with local constructive peculiarities.[1]



1137. Central Cell of Court at Martund. From a Drawing by General A. Cunningham. No scale.

[1] It is not a little singular, however, that the only temple I know of in India that resembles this one, either in plan or arrangement, is the smaller temple of Conjeveram in the Chola country near Madras; and it is curious that both the Raja Tarangini, the Cashmere history, and that of the Chola country, mention that Ranaditya of Cashmere married a daughter of the Chola king, and assisted in forming an aqueduct from the Cauvery—showing at least an intimacy which may have arisen from that affinity of race and religion, which, overleaping the intruded Aryans, united the two extremities of India in one common bond. True, the style of the two temples is different; but when I saw the one I did not know of the existence of the other, and did not, as I now should, examine the details with that care which alone would enable any one to pronounce definitely regarding their affinities.

In the plan (woodcut No. 1135) will be seen the indications of the raised causeway across the court-yard which led from the entrance to



1138. View in Court of Temple at Bhaniyur. From a Photograph.

the temple itself, and in woodcut 1137 will be observed the plain basement on which the pillars and arches stand, which apparently marks the height to which the water was intended to rise.

1139. Temple at Pandrethan. From a Drawing by General Cunningham.

Another temple at Bhaniyur, near Noushera, is more perfect, though smaller than that at Martund. The temple itself is only 26 ft. square in plan, its court-yard 120 ft. by 145, but, except from the natural decay of the stone, it is nearly perfect, and gives a very fair idea of the style of these buildings. The trefoiled arch, with its tall pediment, the detached column and its architrave, are as distinctly shown here as in any other Cashmerian example.

Among the remaining temples, perhaps the one which most clearly exhibits the characteristics of the style is that of Pandrethan (woodcut No. 1139). It still stands,

as they probably all once stood, in the water, and retains the greater part of its roof entire. Originally it seems to have had a third storey, which has perished, but the lower part exhibits all the usual features of the style.

There is another smaller one at Payech, which is still quite complete. It owes its perfection, in the first place, to its being constructed of very large blocks of stone; the upper storey of the roof being one stone, and the second another. It also seems to be the most modern in this style in the valley, and its sculptures shew a distinct tendency towards the worship of Siva and Vishnu.

At a place called Waniyat there are two large groups, each containing numerous temples in all the various forms of Cashmere architecture, and many others are enumerated by Mr. Cowie, and were carefully examined by him, but till his illustrations reach this country it is impossible to speak of them with certainty. At Avantipore, however, there is a temple excavated by him which seems to be of great beauty of detail. The annexed fragment of one of its columns is as elegant in itself, and almost as interesting historically, as the Doric of the examples quoted above, inasmuch as if it is compared with the pillars of the tomb of Mycene (woodcut No. 117) it seems difficult to escape the conviction that the two forms were derived from some common source. At all events there is nothing between the Peloponnesus and Cashmere, so far as we now know, that so nearly resembles it.

1140. Pillar at Avantipore. From a Drawing by Mr. Wilson, C.S.

There is in Cashmere, at Tukt i-Suleiman, one very conspicuous and well-known example, which is quite in a different style from those above enumerated, and could never have been devoted to Serpent-worship. It stands on the top of a hill overlooking the city of Serinagar; and is a small Hindu temple of the usual form, but so devoid of ornament or sculpture of any sort—externally at least—that it is almost impossible to guess its age. It looks old; but that may arise from the nature of the materials employed. Its enclosures and the steps leading up to it look more modern than the temple itself.

At Mullote, in the salt range of the Punjab, Captain Abbot discovered some temples which he described in the 18th volume of the Journal of the Asiatic Society of Bengal. They are so extremely similar in detail to those of Cashmere that there can be no doubt that the same style prevailed in the plains, though the country has been so frequently swept over by invading armies that few architectural remains are now to be found. If, however, these were carefully

examined and described, they would form a most valuable contribution to our knowledge of Indian ethnology and art.

So many and so various are the points of interest connected with the style of the ancient buildings in Cashmere, that they deserve much fuller illustration than is compatible with the scope of the present work. Though not very magnificent, they are very pleasing and appropriate examples of art, and they have this advantage over most of the Indian styles, that Cashmere possesses, in the Raja Tarangini, what may be said to be the only Indian history in existence. Any one familiar with that work, and with the actual buildings, could without much difficulty fix their dates, and from the buildings illustrate the history. This has hardly yet been attempted, but there is no doubt that it can be done.

Another point of interest connected with this style is the strange but undoubted affinity which exists between it and the architectural forms of ancient Greece. This, when fully investigated, may reveal to us relations between the two countries or their outlying dependencies which are not now suspected.

But the greatest point of interest is that arising out of the connexion which at one time seems to have existed between Cashmere and Cambodia, which will form the subject of the next chapter. Between the two we shall probably be able to gather up the threads of the long-lost form of Serpent superstition, and learn to know what were the arrangements of the temples, and what the worship addressed to that mysterious deity.

CHAPTER II.

CAMBODIA.

CONTENTS.

Temples of Nakhon Wat, Ongcor Thom, Paten ta Phrohm, &c.

CHRONOLOGY.

Migration from Taxila	4th century (?)	Conquest of country by Siamese .	A.D. 1351–1374
Pathummasurivong founds Inthapathapuri	A.D. 959	Panoumphen capital.	1387
Leprous king	1250 (?)	Pontipret capital	1518

INTRODUCTORY.

Since the exhumation of the buried cities of Assyria by Mons. Botta and Mr. Layard nothing has occurred so startling, or which has thrown so much light on Eastern art, as the discovery of the ruined cities of Cambodia. Historically, they are infinitely less important to us than the ruins of Nimroud and Nineveh; but, in an architectural point of view, they are more astonishing; and, for the elucidation of certain Indian problems, it seems impossible to overrate their importance.

The first European who visited these ruins in modern times was M. Mouhot, a French naturalist, who devoted the last four years of his life (1858–1861) to the exploration of the valleys of the Mekong and Menam rivers. Though the primary object of his travels was to investigate the natural productions of the country, he seems to have been so struck with the ruins of Ongcor Wat that he not only sketched and made plans of them, but wrote descriptions of all the principal buildings. Unfortunately for science and art he never returned to Europe, being struck down by fever while prosecuting his researches in the northern part of the country; and, though his notes have been published both in this country[1] and in France, they were not prepared for publication by himself, and want the explanatory touches which only an author can give to his own work. Though his melancholy death prevented M. Mouhot from obtaining all the credit he was entitled to for his discovery, it has borne fruit as far as the public are concerned.

The next person that visited these ruins was the very learned

1 'Travels in Indo-China, Cambodia, and Laos,' by Henri Mouhot. 2 vols. 8vo. Murray, 1864.

Dr. Adolph Bastian;[1] and he is preparing a great work on the Indo-Chinese nations, two volumes of which have appeared, and three more are promised. He has also written an account of the ruins in the 'Journal of the Royal Geographical Society' (Vol. xxxv.), and four papers in the 'Ausland' (Nos. 47–50). It is impossible to find out from all these whether Dr. Bastian has satisfied himself who built these temples, what their age is, or to what worship they are dedicated. Perhaps his fourth[2] volume may reveal the secret which he has hitherto carefully hidden under such a mountain of learning. Meanwhile, however, owing to these circumstances, it would have been impossible to write anything that would convey a correct idea of these ruins had it not been for the zeal and enterprise of Mr. J. Thomson, who was following his profession as a photographer in the East. At considerable risk and expense he carried his apparatus to the spot, and brought away a plan and some thirty photographs of the great temple, and views of one or two others. These he has placed at my disposal, and it is principally from them, with the information he has afforded me verbally, that the following account is compiled.[3]

In addition to these sources of information there is a most interesting account, written by a Chinese traveller, who spent two years in the country when the kingdom was in its most flourishing state, between the years 1295–97. He was a Buddhist, and, like his predecessors in India, Fa Hian and Hiouen Thsang, sees things a little too much through Buddhist spectacles; but, with this slight defect, nothing can be more graphic than his account of the country and the people.[4]

There are also two papers, by Col. James Low, in the 'Journal of the Asiatic Society of Bengal' (Vol. xvii.), which are replete with traditional information extracted from Siamese books.

The first assertion in the traditions of the Cambodians, as gathered by Dr. Bastian, is sufficiently startling. "In the country of Rome or Romaveisei, not far from Takkhasinla (Taxila), reigned a great and wise king. His son, the Vice King—Phra Thong by name—having done wrong, was banished, and, after many adventures, settled in Cambodia," &c. The time is not indicated, but we gather from the context that it must have been about the fourth century. It may, at first sight, look like catching at a nominal similarity, but the troubles which took place in Cashmere in the reign of Tungina, and

[1] 'Die Völker der Oestlichen Asien,' von Dr. A. Bastian. Leipsig, 1866.

[2] His 3rd volume is to be devoted to Siam; the 4th, or Cambodian volume, is not expected to appear till 1868.

[3] Mr. Thomson read a paper on this subject at the meeting of the British Association at Nottingham.

[4] The work is translated *in extenso* in Abel Remusat's 'Nouvelles Melanges Asiatique,' vol. i. p. 78, *et seq.*

generally in Western India about the year 319, look so like what is recorded further east, that, at present, that seems the most probable date for the migration, assuming it to have taken place. Many would be inclined to doubt the possibility of any communication between the two countries; but it must be borne in mind, that the country around Taxila in ancient times was called Camboja; that it was the head-quarters of Serpent-worship; that the architecture of Cashmere bears very considerable resemblance to that of Cambodia; while there is a general consent that the Cambodians came from India. If this were so, it seems certain that it was not from the east coast that they migrated. As pointed out above, the Indians who introduced Buddhism and Buddhist architecture into Java certainly went from Guzerat or the countries on the west coast. This seems undoubted, and there is no greater improbability of a migration from the Indus to Cambodia than of one from Guzerat to Java.

Ceylon was always addicted to Snake-worship, and may have formed a half-way house. On the other hand, it is by no means improbable that the communication may have taken place behind the Himmalayas; in fact, that the religion of the two countries was derived from some common centre in Northern Asia.

All this will require careful elaboration hereafter, in some place where it can be more fully treated than is possible here. All that is wanted now is to insist on the fact that there must have been a connexion between the two countries, and that the traditions of Cambodia point to Taxila as their parent seat.

For six centuries from this time we have nothing but stories of dragon-kings and their beautiful but troublesome daughters; of the treasures and relics they guarded; and of the spells and enchantments which were had recourse to to vanquish and rob them. All this is common to all the nations between Cambodia and the North Cape of Norway, but does not concern us here.

At last we come to a fact. "In the year 957 Inthapathapuri was founded by King Pathummasurivong." In the same manner as the name of the old capital of Siam was the mispronunciation of Ayodya, so this is only the Cambodian way of spelling Indraprastha, or the old Delhi of the Mahabharata.

Jumping from this initial date we have a final one in the conquest of the country by the Siamese (1351–1374), after which time the old capital was deserted, and no more temples were erected there. Our architectural history is thus confined to the four centuries which elapsed between 951 and 1357. For the first three of these, at least, Nakhon[1] Thom—the Great City—was the capital. About the middle,

[1] Nakhon is only the Siamese pronunciation of the Indian Nagara, Nuggur. Thom means "great."

however, of the 13th century, the king was afflicted with leprosy "because he had forsaken the Snake-worship of his forefathers," and taken to the Brahminical or Buddhist heresy, it is not quite clear which; and the capital was then transferred to a site some fifteen miles further east, and a city built, known as Paten Ta Phrohm (the City of Brahma?).

Meanwhile we have at least three centuries during which Naga-worship prevailed—giving rise to the erection of a series of temples as large and as richly ornamented as any to be found in any other part of the world. The last of these—that known as Nakhon Wat—was the greatest and the best, and is the one with which we are at present principally concerned.

From the little we know of the others it does not seem that there would be any difficulty in arranging them all in a chronological series, from the gradations of style they exhibit; nor of ascertaining their dates, since they are covered with inscriptions in a character that could be read without serious trouble; and these probably contain the names of the kings, which would enable this to be done, approximatively at least, even if there should be no dates.

The buildings of Paten ta Phrohm (the Brahminical) are of a much more varied but less perfect style. They seem, from the descriptions of M. Mouhot and Dr. Bastian, to be Buddhist, Jaina, or Hindu, or all these styles mixed up together as in Java. In fact, they seem very much to resemble the buildings in that island, and their date is about the same (1250–1350); but, as they have neither been drawn nor photographed, there is very little to be said about them. For the present our attention must be principally confined to the city of Ongcor—or Ongou, as it is popularly named, but more correctly known as Nakhon Thom.

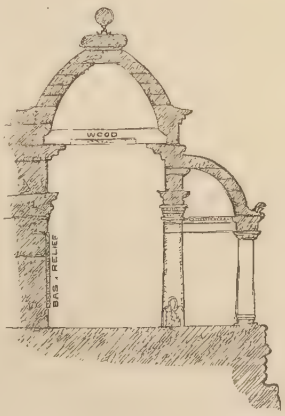
It is difficult to point out the situation of this city, as the lake near which it is situated and the hills that approach it have not yet found their way into any atlas. Generally it may be said that about half-way between the great rivers of Siam and Cambodia is a lake, the Tali Sab, about 120 miles long, and varying in width from 30 to 60. In the dry weather its average depth is only 4 ft., but in the rains it is fed by the Mekong, of which it is a backwater, and rises 30 or 40 more, so that it is easily navigable for large boats. At a little distance from the northern shore of this lake, in 103° 50′ East longitude and 13° 30′ North latitude, the ruins are to be found, situated in a great plain extending some 50 miles in width between the lake and the hills on its northern boundary.[1]

[1] The French have navigated the lake in a large steamer, and published detailed charts of the river. Maps are also found in Mouhot's 'Travels;' but the best accompanies Dr. Bastian's paper, in the 35th vol. of the 'Journal of the Royal Geographical Society.'

Temple of Nakhon Wat.

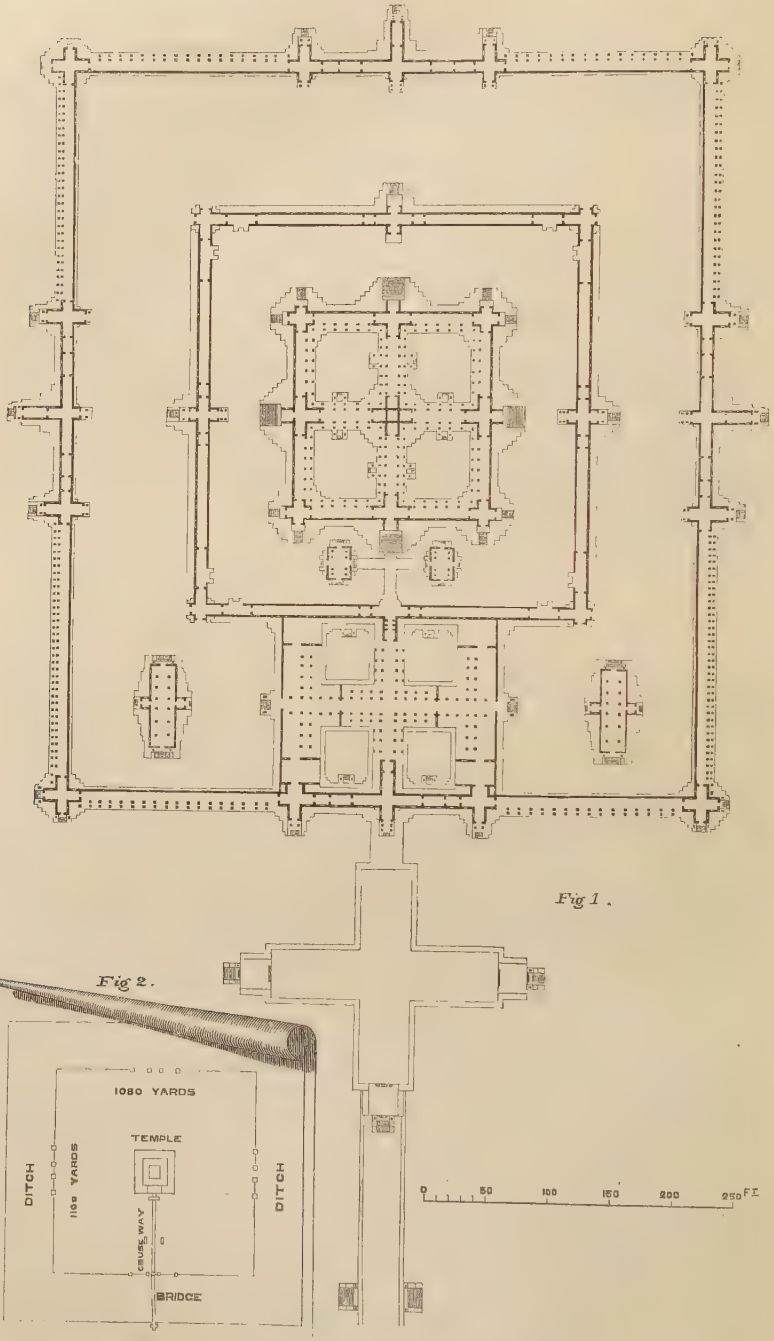
The temple of Nakhon Wat, literally "the temple of the city" or "of the capital," as it is now called by the Siamese, is situated in a sandy plain about four miles to the southward of the city of Ongcor itself, and between it and the lake Tali Sab. As will be seen from the small plan (figure 2, woodcut No. 1142) it is almost an exact square, and measures nearly an English mile each way. The walled enclosure of the temple measures 1080 yards by 1100, and is surrounded by a moat or ditch 250 yards wide. The moat is crossed on the west by a splendid causeway, adorned by pillars on either side. This leads to the great gateway, not unlike the gopura of a Dravidian temple, five storeys in height, but extended by lateral galleries and towers to a façade more than 600 ft. in extent. Within this a second raised causeway, 370 yards long, leads to a cruciform platform in front of the temple (shown in fig. 1, woodcut No. 1142). On either side of this, about half-way down, is a detached temple, which anywhere else would be considered of importance, but here may be passed over.

The temple itself consists of three enclosures, one within the other, each raised from 15 to 20 ft. above the level of that outside it, so as to give the whole a pyramidal form. The outer enclosure measures 570 ft. by 650, and covers therefore about 370,000 sq. ft. The great temple at Karnac (Thebes) covers 430,000. There are three portals adorned with towers on each face, and on either side of these are open galleries or verandahs which, with their bas-reliefs, are probably the most remarkable features of this temple. Their external appearance will be understood from the woodcut No. 1143; that of the interior from woodcut No. 1144; though these illustrations are on too small a scale to do justice to their magnificence.



1141. Diagram Section of Corridor, Nakhon Wat.

The mechanical arrangements of these galleries or colonnades are as perfect as their artistic design. These will be understood from the annexed diagram. On one side is a solid wall of the most exquisite masonry, supporting the inner terrace of the temple. It is built of large stones without cement, and so beautifully fitted that it is difficult to detect the joints between two stones. At a distance of 10 ft. 6 in. in front of this stands a range of square piers very much in the proportion of the Roman Doric order, with capitals very like the classical examples, but more ornamented. These pillars have no bases, but on



1142. Plan of Temple of Nakhon Wat. From a Survey by Mr. J. Thomson. Scale 155 ft. to 1 in.

each face is carved a figure of a devotee or worshipper surmounted by a canopy of incised ornament, which is also carried along the edge of the shafts. The pillars carry an architrave and a deep frieze, which, in the inner part of the temple, is ornamented with bassi-rilievi of the most elaborate character, and above this is a cornice of very classical outline. Above the cornices is a pointed arch not formed with voussoirs, but of stones projecting one beyond the other, as with the old Pelasgi and the Indians to the present day. This

1143. View of Exterior of Corridor, Nakhon Wat. From a Photograph by Mr. J. Thomson.

is quite plain, and was probably originally intended to be hidden by a wooden ceiling, as indicated in the diagram; at least, Mr. Thomson discovered the mortices which were intended to secure some such adornment, and in one place the remains of a teak-wood ceiling beautifully and elaborately carved.

Outside this gallery, as shewn in the woodcuts No. 1141 and 1143, is a second, supported by shorter pillars, with both base and capital. This outer range supports what may be called a tie-beam, the one end of which

is inserted into the inner column just below the capital. So beautifully, however, is this fitted that M. Mouhot asserts the inner columns are monoliths, and, like the other joints of the masonry, the junction cannot be detected even in the photograph unless pointed out. The beauty of this arrangement will at once strike anyone who knows how difficult it is to keep the sun out and let in the light and air, so indispensable in that climate. The British have tried to effect it in India for 100 years, but never hit on anything either so artistic or convenient as

1144. View of Interior of Corridor, Nakhon Wat. From a Photograph by Mr. J. Thomson.

this. It is, in fact, the solution of a problem over which we might have puzzled for centuries, but which the Cambodians resolved instinctively. The exterior cornice here, as throughout the temple, is composed of infinite repetitions of the seven-headed snake.

The most wonderful parts, however, of these colonnades of Nakhon Wat, are the sculptures that adorn their walls, rather than the architecture that shelters them. These are distributed in eight compartments, one on each side of each central group of entrances, measuring

each from 250 to 300 ft. in length, with a height of about 6½ ft. Their aggregate length is thus at least 2000 ft., and, assuming the parts photographed to be a fair average, the number of men and animals represented extends from 18,000 to 20,000. The relief is so low that in the photograph it looks at first sight as if incised—*intagliato*—like the Egyptian sculptures, but this is not the case. Generally speaking, these reliefs represent battle-scenes of the most animated description, taken from the Ramyana, or Mahabharata, which the immigrants either brought with them or, as the Siamese annals say, received from India in the 4th or 5th century. These, Pathammasurivong, the founder of the city, caused to be translated into Cambodian, with considerable variations, and here they are sculptured almost in extenso.

One bas-relief, however, is occupied by a different subject—popularly supposed to represent heaven, earth, and hell. Above is a procession so closely resembling those in Egyptian temples as to be startling. The king is borne in a palanquin very like those seen in the sculptures on the banks of the Nile, and accompanied by standards and emblems which go far to complete the illusion. In the middle row sits a judge with a numerous body of assessors, and the condemned are thrown down to a lower region, where they are represented as tortured in all the modes which Eastern ingenuity has devised. It is not clear, however, that this is a theological hell; it seems more probable that it represents the mode in which the Indian immigrants "improved" the natives. One subject alone can be called mythological, and it wears an old familiar face; it represents the second Avatar of Vishnu, the world-supporting tortoise, and the churning of the ocean with the great snake Naga. No legend in Hindu mythology could be more appropriate for a snake-temple; but, notwithstanding this, it is out of place, and I cannot help fancying that it was his choice of this subject that gave rise to the tradition that the king was afflicted with leprosy because he had deserted the faith of his forefathers. This relief is evidently the last attempted, and still remains unfinished.

The only other temple that I am aware of where sculpture is used in anything like the same profusion is that at Hullabeed, described above, page 615. There, however, the principles on which it is employed are diametrically opposed to those in vogue in Cambodia. In the Indian example all the sculptures are in high relief, many of the figures standing free, and all are essential parts of the architecture—are, in fact, the architecture itself. Here, however, the two arts are kept quite distinct and independent, each mutually aiding the other, but each perfect by itself, and separate in its aim. The Gothic architects attempted to incorporate their sculpture with the architecture in the same manner as the Indian architects. The Greeks, on the contrary, kept them distinct: they provided a plain wall outside the cella of the temple for their paintings and sculpture, and pro-

tected it by screens of columns precisely as the Cambodians did; and it is difficult to say which was the best principle. A critic imbued with the feelings of mediæval art would side with the Indians; but if the Greeks were correct in their principle, so certainly were the Cambodians.

1145. General View of Temple of Nakhon Wat. From a Photograph by Mr. J. Thomson.

Leaving these outer peristyles for the present, and entering by the west door we find ourselves in an ante-naos measuring 180 ft. by 150, supported by more than 100 columns, and lighted by four small courts open to the sky above; but the floors, as in all Naga temples, are

tanks or reservoirs for water. The whole of this part is arranged most artistically, so as to obtain the most varied and picturesque effects, and is as well worthy of study as any part of the temple. Beyond this, on either hand, is a detached temple similar in plan to those that stand on either side of the causeway half-way between the entrance and the temple.

Ascending from this we enter the middle court, in the centre of which stands what may be considered as the temple itself. It measures 200 ft. by 213, and is crowned by five towers or spires, one on each angle, and one, taller than the others, in the centre. This, according to M. Mouhot, is 110 ft. high from the floor of the temple, and, as that is raised 55 ft. above the level of the ground outside, the whole height is 165 ft. Mr. Thomson makes the whole height 180 ft. The central tower has four cells like that at Sadree, one facing each way. The general appearance of these towers may be gathered from woodcut No. 1145. They are very Indian in character and outline, but, when looked closely into, are unlike anything known in that country. The building which resembles the inner temple most, so far as at present known, is that at Sadree (woodcut No. 1087). Its dimensions are nearly the same, 200 ft. by 225; like this, it has five spires similarly disposed, and four open courts; and at Sadree, as here, there are a certain number of snake-images which suggest a connexion between the two. But there the similarity ceases. The extraordinary amount of richness and exuberance of detail in the Cambodian temple far surpasses that of the Indian example; and the courts at Nakhon Wat are not courts, but water-tanks. How far the lower courts were also capable of being flooded is not clear, nor whether the whole area, 1100 yards square, in which the temple stands, was not also capable of being turned into a lake.[1] Judging from the analogy of the Cashmere temples, it would seem probable that this may have been the case. If it were, it is difficult to conceive a more fairy-like scene than this temple would have presented, rising from the lake which reflected its forms in the calm stillness of a tropical sunset.

One of the most curious circumstances connected with the architecture of this temple is, that all its pillars are as essentially of the Roman Doric order as those of Cashmere are of the Grecian Doric. Even if this is disputed, one thing at least is certain, that no such pillars occur anywhere in India. At Nakhon Wat there is not a single bracket-capital nor an Indian base. The pillars nowhere change into octagons or polygons of sixteen or thirty-two sides,[2] and all the enta-

[1] Mr. Thomson was informed that during the rains the whole was flooded, and the temple could be reached in boats.

[2] Outside the temple the sides of the causeways are in places ornamented with dwarf columns of circular form. They seem to simulate a bundle of eight reeds, and have tall capitals.

blatures are as unlike Indian forms as can well be conceived. At Nakhon Wat, also, there are interesting vaults and ingenious roofing-contrivances of all sorts, but no dome, and no hint that the architects were aware of the existence of such a form. On the contrary, take such a pillar as that shewn in woodcut No. 1146; the proportion of diameter to height; the entasis; the proportion between the upper and lower diameter; the capital with its abacus; the base with its plinth; the architrave, &c., are so like the Roman order that it is difficult to conceive the likeness being accidental. How the pillars came here we do not know, but we must not overlook the fact that, in the traditions collected by Dr. Bastian, and, more especially, in those extracted from Siamese books by Col. Low, nothing is so commonly asserted and insisted upon as the presence of a prince of "Rome," of "Romans," and white men. What all this means it is difficult to guess. If the chronology given above is correct, Marco Polo must have visited Ziampa[1] when this temple was building, but he says nothing about it; and, had Christians been here then, they would have introduced the Gothic of the 13th century, not the long forgotten orders of Pagan Rome.[2]

1146. Pillar of Porch, Nakhon Wat. From a Photograph by Mr. J. Thomson.

But whoever gave the design for these pillars—and, according to M. Mouhot, there are 1532 of them in this single building—we have abundant evidence to show that the people for whom it was erected were of pure Turanian blood. Without insisting on other facts, there are in every part of the building groups of female figures in alto-relievo. They are sometimes in niches or in pairs, as in the woodcut No. 1147, attached to pilasters, or in groups of four or more. There are a hundred or more in various parts of the building, and all have the thick lips, the flat noses of true Tartars, their eyes forming an angle with one another like those of the Egyptians, or any other of the true building-races of the world. Unfortunately, no statues of men are so attached, though there are several free-standing figures which tell the same tale. The bas-reliefs do not help in the enquiry, as the artist has taken pains to distinguish carefully the eth-

[1] Marsden's translation, page 585.

[2] The Chinese traveller mentions white women as one of the remarkable things in the country, but does not seem to be able to make out where they came from.

nographic peculiarities of all the nations represented, and, till the inscriptions are read, and we know who are intended for Indians or Ceylonese, who for Chinese or Cambodians, we cannot use the evidence they supply.

It is a well-known fact that, wherever Serpent-worship prevailed in any part of the world, it was the custom to devote the most beautiful young girls to the service of the temple. This would not only account for these numerous female statues, but their presence affords a hint of the worship to which it was dedicated. This, however, is not required; for, though the god is gone, and the Buddhists have taken possession of the temple, everywhere the Snake-god appears. Every angle of every roof is adorned with an image of the seven-headed snake, and there are hundreds of them; every cornice is composed of snakes' heads; every convolution of the roofs, and there are thousands, terminates in a five or seven-headed snake. The balustrades are snakes, and the ridge of every roof was apparently adorned with gilt dragons. These being in metal have disappeared, but the holes into which they were fixed can still be seen on every ridge.

There is no image in the sanctuary, of course, because it is the peculiarity of this religion that the god is a living god, and dies, or is eaten up

1147. Lower Part of Pilaster, Nakhon Wat. From a Photograph by Mr. J. Thomson.

by his fellow divinities, so that no trace of him remains. But, beyond all this, the water arrangements which pervade every part of the great temple are such as belong to the worship of the Serpent, and to that only.

Temples of Ongcor, Paten Ta Phrohm, &c.

If there were no other temples of the same class in their neighbourhood, the discovery of that of Nakhon Wat would in itself be of sufficient interest, but this is far from being the case. There is a series of temples and palaces, spread over a space not greater than that covered by the ruins of Delhi, but equalling in extent and surpassing in richness those of the Indian city from which Inthapathapuri takes its name. The principal of these are the two metropolitan temples of Ongcor and Paten Ta Phrohm. They are nearly as large and quite as elaborate as Nakhon Wat. That temple may, indeed, be considered as a sort of suburban monastery or religious establishment; the other two great temples were those in the two successive capitals themselves. Unfortunately, however, our knowledge of these is very much more restricted than of the temple outside the walls. Only one photograph, so far as I know, exists of either; and the plans and descriptions[1] are far from supplying the necessary details. We cannot even feel sure to what religion they were dedicated. They certainly were not so essentially Naga as of Nakhon Wat; but they are not Buddhist in any sense in which the term is understood in India or Burmah, though they are now appropriated by the priests of that faith. Nor are they Brahminical, though Hindu gods and Hindu traditions occasionally peer through the local crust; in fact, we must wait some time before this new page of architectural history can be satisfactorily deciphered.

The great temple in the centre of the city of Ongcor is an exact square, measuring about 400 ft. each way, and is surrounded, like Nakhon Wat, by a corridor containing sculptures as in that monastery. Within this is a second enclosure, 215 ft. square, connected with the outer by four great galleries. In the centre of the whole is a tower, 65 ft. in diameter by 130 in height, circular in plan generally, but with a most complicated arrangement of niches and galleries.

Around the central tower are placed thirty-six[2] smaller spires connected with galleries crossing and intersecting one another so as to form a perfect labyrinth. In its present state of ruin it is so difficult to find

[1] M. Mouhot's plans have been kindly lent to me by his widow for this purpose, and most of the information here employed is derived from these and the descriptions in his work. It is very difficult to follow Dr. Bastian.

[2] That is the number shewn in M. Mouhot's plan. Mr. Thomson tells me he counted fifty-one. The building is so overgrown with jungle that it seems impossible, without clearing it, to be certain.

your way in or out of the place that it is popularly known as "the Palace where they play hide-and-seek." The general appearance of one of the smaller towers will be gathered from woodcut No. 1148. They are slightly cruciform in plan, but their most marked peculiarity is the great mask, which is repeated on each of the four fronts at about two-thirds of their height from the ground. What is this mask, and what does it represent? The traditions of the place say that, when the sovereign who married the Snake-king's daughter got tired of his father-

1148. One of the Towers of the Temple at Ongcor Thom. From a Photograph by Mr. J. Thomson.

in-law, he set up an image of the four-faced Brahma over the gates of the city, which so terrified the old man that he fled to his dark abode cursing his ungrateful children. Such an image does still exist over the principal gate of the city; but the Chinese traveller, who visited the place in 1295,[1] calls it a five-faced image of Buddha! The traveller was a Buddhist, and saw his own religion everywhere, and that only in every temple and in every place.

[1] 'Nouvelles Melanges Asiatiques,' i. p. 103.

The other great temple, that of the new capital—Paten Ta Phrohm—was of about the same dimensions, 400 ft. square, but does not seem to have ever been finished, though, from such descriptions as we possess, it was not inferior in richness or elaboration to those just mentioned. According to M. Mouhot's plan there were eight towers, two on each face, external to the great gallery, and seventeen or eighteen internally, arranged as they now appear somewhat capriciously. This may have arisen from the temple never having been completed or from subsequent destruction. As we now find it the plan certainly shows less symmetry and less propriety of design than the other two; but till we know more about it, it is difficult to guess what may be the cause of this inferiority. Both the last-named temples are so overgrown with jungle, and so seriously injured by the roots of trees growing between the joints of the stones, that their exploration is a matter of difficulty, if not of danger.

The relative ages of these three great temples does not seem to be a matter of any uncertainty—the oldest is that in the city of Ongcor, the most modern that in Paten Ta Phrohm; the temple of Nakhon Wat being of a date intermediate between these two. It is more difficult, in the present state of our knowledge, to determine the real date. We shall probably not err to any great extent if we assume that these erections occupied the two centuries that elapsed between the years 1150–1350; the temple of Nakhon Wat being thus the true representative of the great building mania which possessed the whole world during the 13th century.

Besides these three, which may be considered as metropolitan, M. Mouhot and Dr. Bastian[1] describe in more or less detail some ten or twelve other temples; some, at least, of which are of considerable extent.[2]

Among these, one of the most remarkable is that called Prasat Keo. It is certainly older than either of the three temples mentioned above, and much simpler both in plan and style of decoration. Like the others it is square, its enclosing corridors measuring 250 ft. each way. The inner enclosure is a pyramid in three terraces rising to a height of 50 ft.; on the upper platform stand, as usual, five great towers, the centre one larger and higher than those at the angles.[3]

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[1] It is not easy always to ascertain whether or not these two gentlemen are speaking of the same building. Besides the difference of the French and German modes of spelling Eastern names, the printer has on several occasions mistaken M. Mouhot's T's for F's, and his L's for I's, which renders the identification perplexing.

[2] It would be interesting if among these we could identify that one of which the Chinese traveller gives the following description:—"A l'est de la ville est un autre temple de l'esprit nommé *Pho-to-li*, auquel on sacrifie des hommes. Chaque année le roi va dans ce temple faire lui même un sacrifice humain pendant la nuit."—'Melanges Asiatiques,' vol. i. p. 83.

[3] In plan and design, so far as can be judged from description, this temple, barring the height, reproduces the tomb

Still older than this is the ruined temple on Mount Bakeng, halfway between the city and Nakhon Wat. This, indeed, seems to have been the city or arx of the immigrants, but the temple is so much weather-worn that it may be difficult to say what it is. On the same hill is another temple of considerably more modern date. It is a seven-storeyed pyramid, the lowest terrace of which measures 225 ft. each way, and is above 50 ft. in height. On three of its terraces stand seventy-two small temples; on the upper platform a small dagoba. The whole building, in fact, is a compound of Boro Buddor and Brambanam, and undoubtedly of Buddhist origin, or at least of that corrupt compound which went by that name in the far East. A similar temple exists on Bakong, about fifteen miles further east. The upper platform in both instances is ascended by flights of steps on each face, running direct to the centre of the upper platform.

The other temples are not of such magnificence as to justify their being described here; their interest would be great in a monograph of the style, but, without illustrations, their dimensions, coupled with their unfamiliar names, would convey very little information to the reader.[1]

Civil Architecture.

The palaces and public buildings of Ongcor seem to be quite worthy of its temples, either as regards extent or richness of decoration. They are, however, as might be expected, in a more ruinous state; being less monumental in their mode of construction, and, what is more to our present purpose, they have neither been drawn nor photographed to such an extent as to render them intelligible.

The walls of the cities were also of very great extent, and of dimensions commensurate with their importance. They seem generally to have been constructed of a coarse ferruginous stone in large blocks, and only the gates and ornamental parts were of the fine-grained sandstone of which the temples and palaces are built. Wonderful as these temples and palaces are, the circumstance that, perhaps, after all gives the highest idea of the civilization of these ancient Cambodians is the perfection of their roads and bridges. One great trunk-road seems to have stretched for 300 miles across the country from Korat, in a south-

of Porsena, as described by Pliny* with singular exactness, or that of Aruns (woodcut No. 168). We must know a little more before speculating; but the square base, the five spires, the petasus or tee, are all coincidences which it is difficult to believe are accidental.

* See 'True Principles of Beauty in Art,' p. 458, woodcuts 79 and 80.

[1] At Buribun, on the other side of the lake, Dr. Bastian informs me there is a complete copy of the Nakhon Wat sculptures, carved in wood in the 16th century. The place was the residence of the kings of Cambodia after the fall of the capital, and as original art had then perished, they took this mode of adorning their palace. What a prize for any European museum!

easterly direction, to the Mekong river. It was a raised causeway, paved throughout like a Roman road, and every stream that it crossed was spanned by a bridge, many of which remain perfect to the present day. Dr. Bastian describes two of these; one,[1] 400 ft. in length and 50 in breadth, richly ornamented by balustrades and cornices, and representations of snakes and the Snake-king.[2] The extraordinary thing is, that it is constructed without radiating arches, but, like every structure in the place, by a system of bracketing or horizontal arches, and without cement. Yet it has withstood for five centuries, at least, the violence of the tropical torrent which it spans.

Even if no vestiges of these roads or bridges remained, the sculptures of Nakhon Wat are sufficient to prove the state of perfection which the art of transport had reached in this community. In these there are numerous representations of chariots, all with wheels from 3 to 5 ft. in height, and with sixteen spokes, which must be of metal, for no London coachmaker at the present day could frame anything so delicate in wood. The rims, too, are in metal, and apparently the wheel turns on the axle. Those who are aware how difficult a problem it is to make a perfect wheel will appreciate how much is involved in such a perfect solution of the problem as is here found. But it requires a knowledge of the clumsiness of the Romans and our mediæval forefathers in this respect, and the utter barbarism of the wheels represented in Indian sculptures and still used in India, to feel fully its importance as an index of high civilization.

If, however, the Cambodians were the only people who before the 13th century made such wheels as these, it is also probably true that their architects were the only ones who had sufficient mechanical skill to construct their roofs wholly of hewn stone, without the aid either of wood or concrete, and who could dovetail and join them so beautifully that they remain watertight and perfect after five centuries of neglect in a tropical climate. Nothing can exceed the skill and ingenuity with which the stones of the roofs are joggled and fitted into one another, unless it is the skill with which the joints of their plain walls are so polished and so evenly laid without cement of any kind. It is difficult to detect their joints even in a sun-picture, which generally reveals flaws not to be detected by the eye. Except in the works of the old pyramid-building Egyptians, I know of nothing to compare with it.

When we put all these things together, it is difficult to decide whether we ought most to admire the mechanical skill which the

[1] 'Journal Royal Geogr. Soc.' Vol. xxxv. p. 75.

[2] The Chinese traveller who visited Nakhon Thom in 1295, describes the bridge that led across the moat to the principal gate of the city as one of the wonders of the place. It was ornamented with 54 statues of giants, each of whom held a serpent in his hand. The arches were in the form of serpents, and each serpent had nine heads.—'Nouvelles Melanges Asiatiques,' vol. i. p. 106.

Cambodian architects displayed in construction or the largeness of conception and artistic merit which pervades every part of their designs. These alone ought to be more than sufficient to recommend their study to every architect. To the historian of art the wonder is to find temples with such a singular combination of styles in such a locality—Indian temples constructed with pillars almost purely classical in design, and ornamented with bas-reliefs so strangely Egyptian in character. To the ethnologist they are almost equally interesting, in consequence of the religion to which they are dedicated. Taken together, these circumstances render their complete investigation so important that it is hoped it will not now be long delayed.

NOTE.

The following information, extracted from Captain Burton's 'Mission to the King of Dahomé,'[1] may tend to throw light on the preceding chapters, since it is only in Africa that the primitive Ancestral and Serpent worship still exists in all its strange deformity.

From this authority we learn that the principal worship of Dahomé is Ancestral. The great "customs," in which some 500 or 600 human beings are sacrificed on the accession of a king, are intended to do honour to the late monarch, and to provide him with a suitable accompaniment in the new world. The smaller annual customs at which Captain Burton assisted, where thirty or forty victims are slain, and the sacrifices which take place after battles, or on any great event, are meant to keep the dead king in good humour, and to convey to him intelligence of what is passing in his late kingdom, in which he is still supposed to take a great and ruling interest.

After this comes the worship of the Danh-gbwe. According to Captain Burton[2] this earthly serpent is esteemed the supreme bliss and general good; it has 1000 Danh-si, or snake-wives, married or single votaries, and its influence cannot be interfered with by the two following deities, who are subject to it.

The most important of these two subordinate divinities is represented by lofty and beautiful trees. They are prayed to, and presented with offerings in times of sickness, and especially of fever. The trees most revered are the Cotton-tree (*Bombax*), whose wives equal those of the snake, and the Loko, the well-known Ordeal or Poison tree.

The youngest brother of the triad is Hu, the ocean (Samudra), whose worship does not appear in India in historical times.

Fragments of these forms of worship may be picked up all over the old world,[3] but nowhere, so far as I know, does the whole faith exist in all its pristine hideousness at the present day, except in this part of Africa. Ancestral worship

[1] Published in 1864, to which the reader is referred for further information. It is far from complete, but contains more on this subject in a short compass than any other work I am acquainted with.

[2] Vol. ii. p. 139.

[3] Botteicher, in his 'Baumkultus der Hellenen,' Berlin, 1856, has gathered together all the fragments of the tree-worship to be found in Greece and Rome.

was, we know, one of the principal forms of faith in Egypt and Assyria. It underlaid the religion of Greece and Rome, and wherever a Turanian people existed it was the formative idea of their faith. In the same manner, without going the lengths to which Stukeley and a large class of our antiquaries would stretch the idea, there seems little doubt of the original prevalence of Ophite worship almost everywhere. It is true that neither Avebury nor Carnac are dracontia; but the worship of the serpent preceded Buddhism in Northern Europe as in India. While in historical times we can trace tree-worship without a break from Anaradhapura in Ceylon to Upsala in Sweden: and in Northern Europe, Nidhoegg, the Abyss-worm, lay coiled at the foot of the tree Yggdrasil.

Another curious circumstance is, though it may be only a coincidence, that wherever Serpent-worship prevailed the fighting was done principally by women. Nothing in the history of art is so remarkable as the wonderful alchemy by which the Greeks were able to transform that most hideous phase of humanity into the exquisitely beautiful myth of the Amazons. The Buddhist painters of Ajunta, when called upon to represent the landing of Sinhala among the Snake-worshippers of Ceylon, took a truer view of the female warrior, and depicted her in forms as little attractive as those of Captain Burton's friends.[1] The king of Cambodia's armed body-guard of women, as represented by the Chinese traveller in 1295, and that of the present king of Siam, are mild echos of the fact, but the female army of Dahomé is the most frightful institution of the world.

The religion of Dahomé is certainly neither amiable nor admirable in any respect, but it is so venerable, that a good monograph of it would throw more light on the ancient religion of the world *ante Buddham natum* than any other work that could well be written. The present of a woolly-haired rhinoceros to the Zoological Gardens would hardly be more interesting to tertiary geologists than such a description would be to archæologists.

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[1] A small woodcut, representing one of these pictures, will be found in Mrs. Speirs's 'Life in Ancient India,' page 302.

BOOK VII.

CHINA.

CHAPTER I.

INTRODUCTORY.

CHRONOLOGY.

Period of Hea	B.C. 2100	Wootae dynasty; China divided into two kingdoms	A.D. 416
Woo Wong period of Chow	1100	China reunited, capital Honan	585
Confucius died	477	Tang dynasty	897
Chy hoang-ty built Great Wall	240	Northern China conquered by Mongols	1234
Han dynasty	201	Kublai Khan	1281
Hoty, seventeenth king; Buddhism introduced	A.D. 90	Ming dynasty; Mongol expelled	1366
Tsin Dynasty	260	Manchow Tartar dynasty; now on the throne	1644

It is extremely difficult, in the present state of our knowledge, to write anything, either conclusive or satisfactory, about the architecture of China. This may arise partly from the incuriousness of travellers, and partly because there really are no buildings in the country worthy of the people or their civilisation. Till very recently, the latter would have appeared to be the true cause of our ignorance; but lately the photographic camera has penetrated even within the walls of the imperial city of Pekin, and has brought away impressions which go some way to modify this opinion. Unfortunately, the camera has not been accompanied by the measuring-tape or the note-book, and our information is therefore, in some respects, vague; but it seems certain that there are buildings worthy of more attention than has hitherto been bestowed upon them. Even these, however, are not such as we might expect to find among a people whose

history and whose civilisation seems so exact a counterpart of that of Egypt. In both countries we have the same long succession of dateless dynasties, extending through 3000 or 4000 years, interrupted only by shepherd invasions which in both countries lasted about five centuries, when the words of Manetho are as literally applicable to the Taeping rebellion as they are to the overthrow of the Hyksos by the uprising of the native Egyptian races. During all this long period the same patriarchal form of government prevailed in both countries—the king being not only the head of the secular government, but the chief priest of the people. Both people early attained a certain stage of civilisation, and maintained it without change or progress during the whole period of their existence. The syllabic symbols of the Chinese are the exact counterpart of the hieroglyphic writing of the Egyptians, as clumsy and as unlike that of any other contemporary nation, and as symbolic of their exclusive segregation from the rest of mankind. In both countries there was always the same calm contemplation of death, the same desire for an honourable funeral and a splendid tomb, and the same reverence for the dead. In these and fifty other particulars, the manners and customs of the two peoples seem identical, and the perfect parallelism only breaks down when we come to speak of their buildings. There are no tombs in China to be compared with the Pyramids, and no temples that approach those of Thebes in dimensions or in splendour.

If the Chinese were as closely allied to the Tartar or Mongolian tribes on their north-eastern frontier as is generally supposed, this difference could not have existed. It may therefore be, as has been suspected, that the true Chinese are more closely allied to the Polynesian races, especially on the sea-board, which is the only part of the country we are really acquainted with. When the inner country has been more carefully examined, it is probable that we may see cause to modify our opinion as to the architectural character of the Chinese people.

Especially will this be the case if, as is highly probable, the so-called Indo-Chinese inhabitants of Cambodia are very much more closely allied in blood to the Chinese than they are to any of the races inhabiting India; since, by the erection of the buildings described in the last division of this work, the Cambodians have nobly vindicated their title to be considered as one of the great building-races of the world. Considering the short time of their existence and the limited area they occupied, they may in fact lay claim to having surpassed even the Egyptians in this respect.

It will be strange if in Honan and Quang-si we do not eventually find the links which will confirm the connexion of the two races of Cambodia and China, and explain what at present can only be regarded as one of the unsolved problems of architectural history.

A little well-directed industry on the spot would very soon clear all this doubt away. Meanwhile there are other minor causes which may have contributed to the absence of monumental buildings in China, and which it may be as well to allude to before proceeding further. In the first place, the Chinese never had either a dominant priesthood or a hereditary nobility. The absence of the former class is a very important consideration, because, in all countries where architecture has been carried to anything like perfection, it is to sacred art that it has owed its highest inspiration, and sacred art is never so strongly developed as under the influence of a powerful and splendid hierarchy. Again, religious and sectarian zeal is often a strong stimulus to sacred architecture, and this is entirely wanting in this remarkable people. Though the Chinese are bigoted to a greater extent than we can well conceive in all political matters, they are more tolerant than any other nation we know of in all that concerns religion. At the present moment three great religious sects divide the empire nearly equally between them. For though Buddhism is the religion of the reigning family, and perhaps numbers more followers than either of the other two, still the followers of the doctrines of Confucius—the contemporary and rival of Sakya Sinha—are a more purely Chinese sect than the other, and hold an equal place in public estimation; while, at the present time, the sect of Laou Tse, or the Doctors of Reason, is more fashionable, and certainly more progressive, than the others. Christianity, too, might at one time have encroached largely on either of these, and become a very prevalent religion in this tolerant empire, had the Jesuits and Dominicans understood that the condition of religious tolerance here is a total abstinence from interference in political matters. This, however, the Roman Catholic priesthood never could be brought to understand; hence their expulsion from the realm, and the proscription of their faith, which otherwise would not only have been tolerated like all others, but bid fair to find more extensive favour than any. Such toleration is highly laudable in one point of view; but the want of fervour and energy from which it arises is fatal to any great exertions for the honour of religion.

In the same manner the want of an hereditary nobility, and indeed of any strong family pride, is equally unfavourable to domestic architecture of a durable description. At a man's death his property is generally divided equally among his children. Consequently the wealthiest men do not build residences calculated to last longer than their own lives. The royal palaces are merely somewhat larger and more splendid than those of the mandarins, but the same in character and erected with the same ends.

There is no country where property has hitherto been considered so secure as China. Private feuds and private wars were till

lately unknown; foreign invasion was practically impossible and little dreaded. Hence they have none of those fortalices, or fortified mansions, which by their mass and solidity give such a marked character to a certain class of domestic edifices in the western world. Equality, peace, and toleration, are blessings whose value it would be difficult to over-estimate: but on the dead though pleasing level where they exist, it is in vain to look for the rugged sublimity of the mountain, or the terrific grandeur of the storm. The Chinese have chosen the humbler path of life, and with singular success. There is not perhaps a more industrious or, till the late wars, happier people on the face of the globe; but they are at the same time singularly deficient in every element of greatness, either political or artistic.

Notwithstanding all this, it certainly is curious to find the oldest civilized people now existing on the face of the globe almost wholly without monuments to record the past, or any desire to convey to posterity a worthy idea of their present greatness. It is no less remarkable to find the most populous of nations, a nation in which millions are always seeking employment, never thinking of any of those higher modes of expression which would serve as a means of multiplying occupation, and which elevate while feeding the masses; and still more startling to find wealth, such as the Chinese possess, never invested in self-glorification, by individuals erecting for themselves monuments which shall astonish their contemporaries, and hand down their names to posterity.

From these causes it may be that Chinese architecture is not worthy of much attention. In one respect, however, it is instructive, since the Chinese are the only people who now employ polychromy as an essential part of their architecture: indeed, with them, colour is far more essential than form; and certainly the result is so far pleasing and satisfactory, that for the lower grades of art it is hardly doubtful that it should always be so. For the higher grades, however, it is hardly less certain that colour, though most valuable as an accessory, is incapable of that lofty power of expression which form conveys to the human mind.

CHAPTER II.

PAGODAS.

CONTENTS.

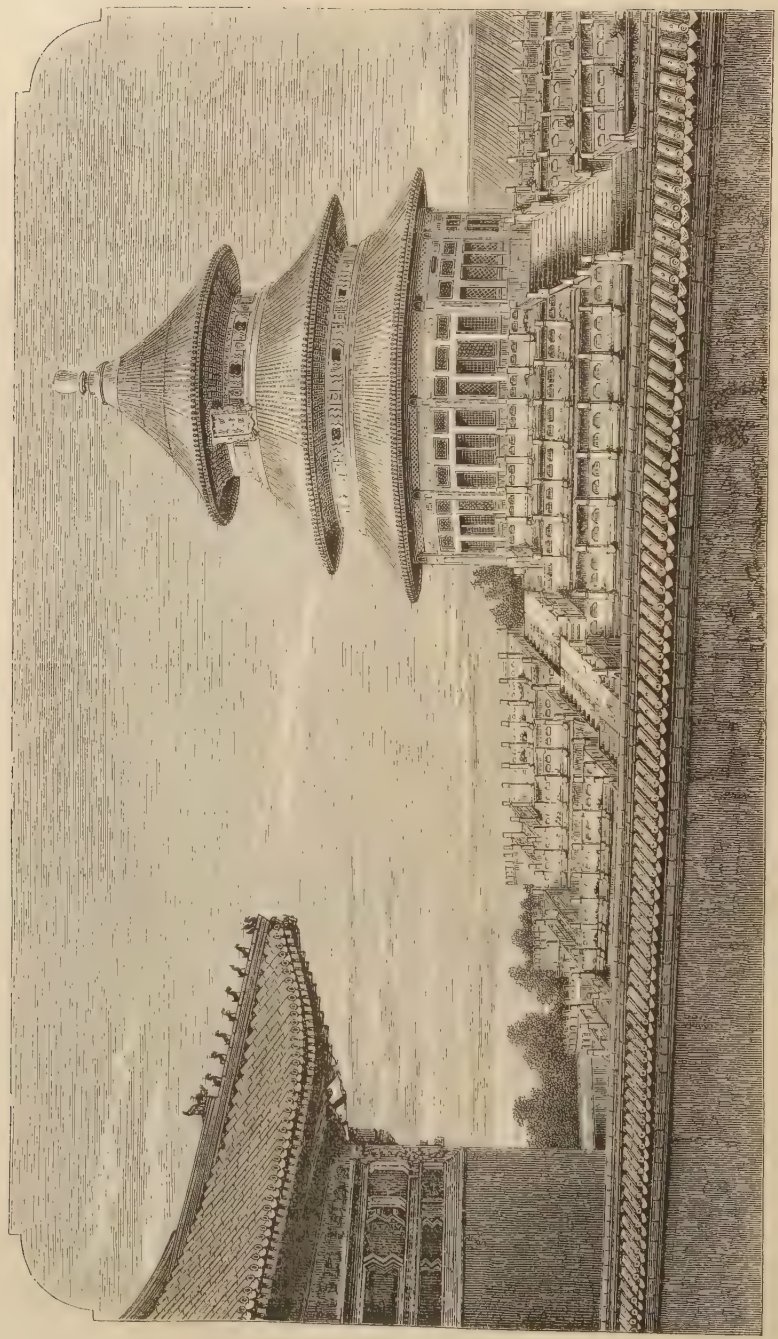
Temple of the Great Dragon — Buddhist Temples — Taas — Tombs — Pailoos — Domestic Architecture.

If we had the requisite knowledge, or if the known examples of Chinese temples were sufficiently numerous, we ought, before describing them, to classify the buildings, apportioning each to that one of the three religions to which it belongs. For the present this must be left to some one on the spot. Meanwhile there is no difficulty in recognising those which belong to the religion of Fo or Buddha. These are generally the nine-storeyed towers or taas, which, as will be explained hereafter, are merely exaggerated tees of the Indian dagobas The temples, properly so called, of this religion, are not very magnificent, nor are they generally built in a permanent style of architecture. This is still more the case, apparently, with the temples of Confucius. The only one that has been carefully described and photographed is that at Pekin, which is also probably the most magnificent. Judging from our present information, it more resembles a university than a temple. There are neither images nor altars, but great halls, on which are hung up the names of the emperors and of the most distinguished literates of the kingdom. There are no priests; and though ceremonies are there performed annually by the emperor in honour of the great philosopher, these scarcely can be called worship, or the hall a temple.

Temple of the Great Dragon.

The most magnificent temple in the capital, so far as we know in the empire, is that known as the Temple of Heaven, or the Great Dragon.[1] It is situated close to the southern wall of the city in a square

[1] The following description is abridged from that by Mr. A. Michie, in his work entitled 'The Siberian Overland Route,' Murray, 1864. It is by far the most distinct I have met with. The new woodcuts in this chapter are generally borrowed from his work. It must, however, be observed that his descriptions differ sometimes essentially from those hitherto current in European books, which were generally derived from the accounts of the Jesuits, who probably obtained their information from Chinese sources. It is generally safer to trust to the account of an educated gentleman describing what he saw, than to the essay of a mere scholar compiling from information conveyed in a foreign tongue.



1149. Temple of the Great Dragon. From a Photograph by Beato.

enclosure measuring about a mile each way. From the outer gate a raised causeway leads to the temple, on either side of which are numerous buildings for the accommodation of the priests, which are approached by frequent flights of steps leading down to a park beautifully planted. At its inner extremity stands the temple itself, a circular building, three storeys in height, with broad projecting roofs, the upper terminating in a gilt ball, directly under which stands the altar.

The temple is raised on a circular pyramid, the three terraces of which are seen in the woodcut. There are several handsome gateways at intervals across the causeway, so arranged that from the entrance the circular temple itself can be seen through the long vista, framed as it were by them; and as the whole of the upper part is covered with blue tiles and gilding, the effect is said to be very pleasing.

In the same enclosure is another temple called that of the Earth, where sacrifices of animals are annually offered to the gods, whoever they may be, to whom this temple is dedicated.

These temples are said to have been erected about the year 1420, and, if so old, seem to be in a very fair state of preservation, considering the manner in which they are now neglected.

In reading Mr. Michie's, or any other description of the Dragon Temple of Pekin, it seems impossible to avoid feeling that there are so many points of resemblance between it and the Serpent Temple of Nakhon Wat, that the coincidence can hardly be accidental. The differences are hardly greater than might be expected from difference of age, and the fact that the one was erected by Chinese at the northern extremity of their empire, the other by Cambodians near the southern limit of theirs. All the links, however, which connect the two temples are still wanting; yet, as we have the assertion of the Chinese traveller in 1295 that the Tao-tze religion[1] existed in Cambodia while he was there, we should not feel surprise at any similarity that may be traced between the temples of the two countries.

Buddhist Temples.

The only Buddhist temple in China of which any plans have been made, or which I have myself had an opportunity of inspecting, is that at Honan, opposite Canton. Unfortunately it is very modern, and by no means monumental. It is a parallelogram enclosed by a high wall, measuring 306 ft. by 174. In the shorter front facing the river is a gateway of some pretension. This leads to a series of halls opening into each other, and occupying the whole of the longer axis of the internal court. The first and second of these are porches or ante-

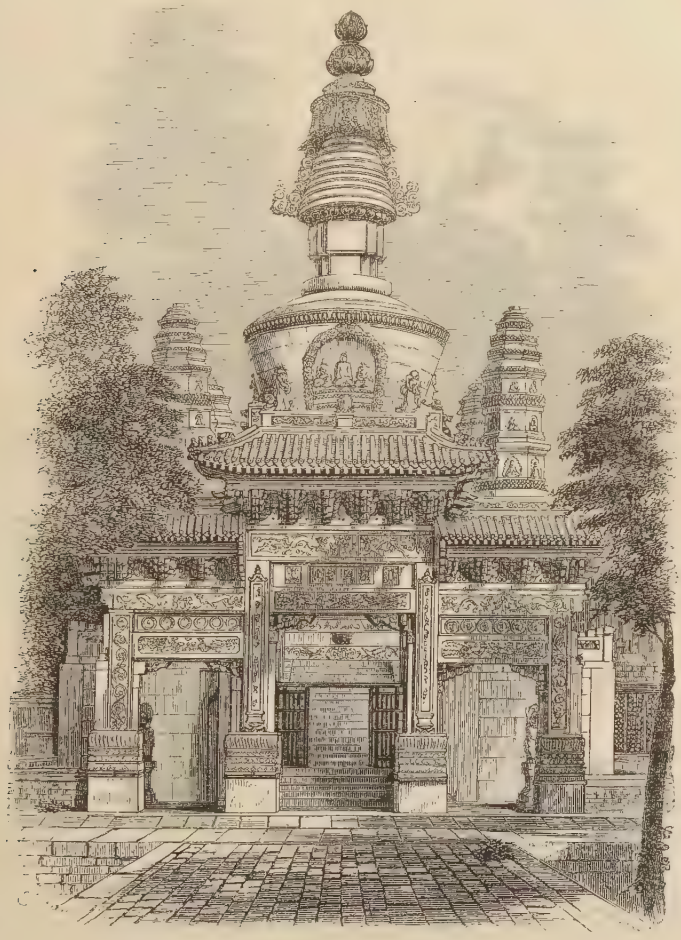
[1] 'Melanges Asiatiques,' vol. i. p. 110.

chapels. The central one is the largest, and practically the choir of the building. It contains the altar, adorned by gilt images of the three precious Buddhas, with stalls for the monks and all arrangements necessary for the daily service. Behind this, in the next compartment, is a dagoba, and in its rear another apartment devoted to the goddess Kuan yin, principally worshipped by women—in fact, the Lady Chapel of the church. Around the court are arranged the cells of the monks, their kitchen, refectory, and all the necessary offices of the convent. These are generally placed against the outer wall, and open into the court.

Any person familiar with the rock-cut examples in India will easily recognise in this temple all the features he is accustomed to in the earlier Chaityas and Viharas, though strangely altered by their Chinese disguise. The figure which stood in front of the dagoba (woodcut No. 995) is moved forward and placed on an altar by itself, with two companions added, in accordance with modern Chinese theology; but the general arrangements remain the same. The most interesting part, however, is the arrangement of the cells, &c., relatively to the temple. In one of the caves at Dhumnar (Bhim ka Bazar) something like this has been attempted, but it is evidently so difficult of execution in the rock, that we are not surprised to find it not repeated. It is evidently what was intended to be represented on the central rath of Mahavellipore (woodcut No. 1006), and must indeed have been the general arrangement of Buddhist ecclesiastical establishments. What is now wanted is, that some one should supply information regarding the earlier temples of the Chinese, say of the 12th to the 16th centuries. They no doubt exist, and would throw great light on the earlier Indian examples. In the meanwhile, however, it is curious to refer back to the woodcut No. 1083. From it it will be perceived that as early as the 11th century the Buddhist Chaitya in India, standing in the centre of its Vihara, had already been sublimated into an idol temple, surrounded by a series of idol niches, since there cannot be a doubt that the Jaina temple of Vimala Sah is a reproduction for another purpose of an old Buddhist monastery. The curious point is, that the 18th-century temple of Honan reproduces, for their original purpose, forms which in India had, seven centuries earlier, passed away to another faith, and became wholly conventional. It is still more strange that, if we leap over the intermediate period, and go seven centuries further back, we shall find in India the same ceremonies performed in the same form of temples as those at which any one may assist in China at the present day.

At Pekin there are several Lamaseries or Buddhist monasteries, of a much more monumental character than that at Honan, but it is very difficult indeed to guess at their arrangement from mere verbal descriptions without dimensions. The gateway of one, represented in woodcut

No. 1150, gives a fair idea of the usual mode of constructing gateways in China, but it requires some familiarity with the subject to recognise in the central crowning ornament the lineal descendant of the tope at Manikyala (woodcut No. 978), though every step in the process of conversion can be easily and certainly traced.



1150. Monumental Gateway of Buddhist Monastery, Pekin. From a Photograph by Beato.

In this instance, as is universally the case, the Chinese gateway is practically a tombstone, so that the dagoba is appropriately placed, and is in that form which is used for sepulchral purposes in Ladakh and Mongolia.

Behind the gateway in the woodcut are seen four towers or spires; and if, as is probable, there is a fifth in the centre, it recalls the

arrangement of those at Cambodia. Their existence here is at all events sufficient to make us feel how many points of interest in the history of the connexion of styles may be brought to light from an examination of these Chinese buildings.

The ordinary form of a temple, as seen in the villages or towns in China, is extremely simple, and seems to be the same, whether dedicated to Buddha or to the Queen of Heaven, or to any other Deity of the strange pantheon of the Celestial Empire. It generally consists of a square apartment with a highly ornamented roof, and with one of the side-walls removed. The entrance is never at the end, nor the end wall ever removed, as would be the case in the west, but always the side; and it is by no means clear that this is not the right and reasonable way of

1151. Temple at Macao. From a Sketch by the Author.

arranging matters. In very small temples a single beam supports the eaves, and a screen inside forms the back of the porch and the front of the temple. In larger temples two or more pillars are introduced, but the other arrangements remain the same. Both these may be seen in the annexed woodcut, No. 1151, and when arranged as picturesquely as in this group, and with their gateways and subsidiary adjuncts, they become very pleasing features in the landscape. As architectural objects they depend for their effect principally on colour, which is applied with an unsparing hand in the form of glazed tiles, painted ornaments, and frequently also paintings, such as landscapes and figure subjects. Gilding is also employed, to a great extent and with good effect.

Taas.

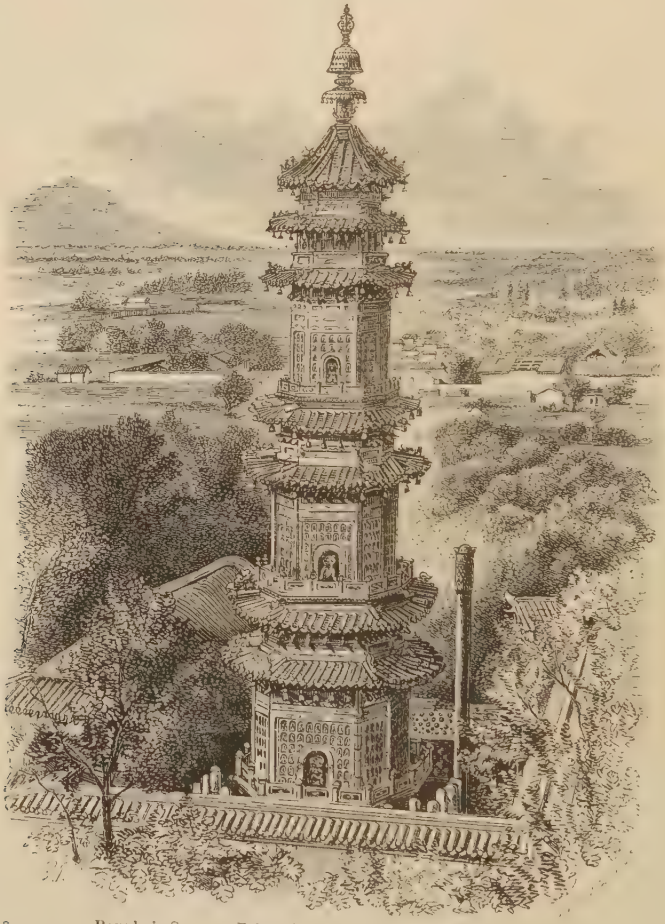
The objects of Chinese architecture with which the European eye is most familiar are the taas or nine-storeyed pagodas, as they are usually called. In the south they generally have that number of storeys, but not always, and in the north it ranges from three to thirteen. As before hinted, these are nothing but exaggerated tees of dagobas, and it is easy to trace them through all the stages of the change. In India we can easily trace the single wooden chattah or umbrella of Karli (woodcut No. 992) to the nine-storeyed tower at Chittore (woodcut No. 1091), and from that the transition is easy to the Chinese examples, although the elaboration of the two was simultaneous, and the Chinese had probably erected tall towers as early as the Jains.

Of those which existed in China in our own time the best known is the celebrated porcelain tower at Nankin.[1] Commenced in the year 1412, and finished in 1431, it was erected as a monument of gratitude to an empress of the Ming family, and was in consequence generally called the Temple of Gratitude. It was octagonal in form, 236 ft. in height, of which, however, about 30 ft. must be deducted for the iron spire that surmounted it, leaving little more than 200 ft. for the elevation of the building, or about the height of the Monument of London. From the summit of the spire eight chains depended, to each of which were attached nine bells, and a bell was also attached to each angle of the lower roofs, making 144 bells in all, which, when tinkling in harmony to the evening breeze, must have produced an effect as singular as pleasing. It was not, however, either to its dimensions or its bells that the tower

1152. Porcelain Tower, Nankin.

[1] The tower was destroyed in the recent Taeping rebellion.

owed its celebrity, but to the coating of porcelain which clothed its brick walls, as well as the upper and under sides of the projecting roofs, which mark the division of each storey. The porcelain produced a brilliancy of effect which is totally lost in all the representations of it yet published, but which was in fact that on which the architect almost wholly relied for producing the effect he desired, and without which his design is a mere skeleton.

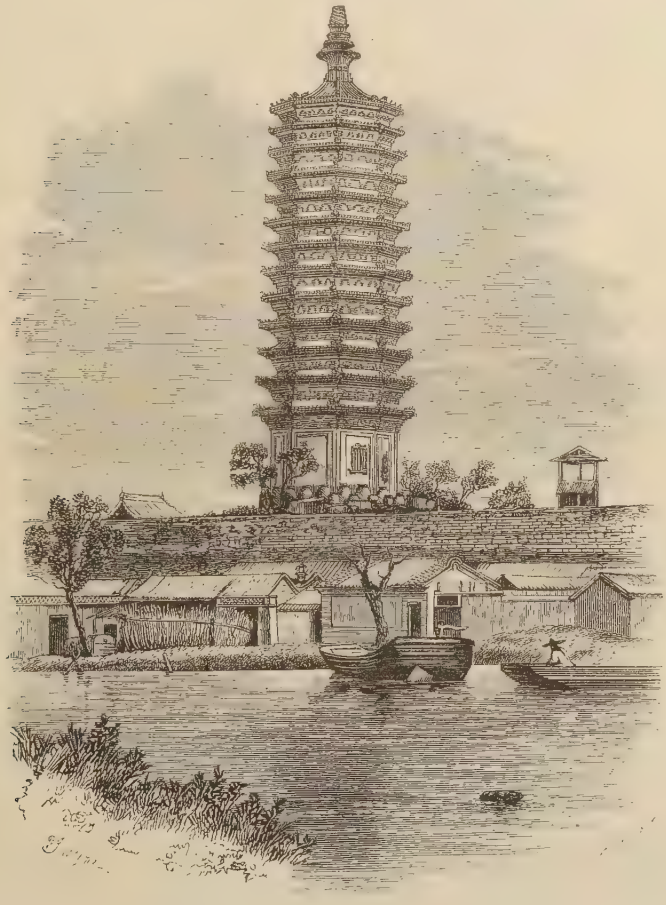


1153. Pagoda in Summer Palace, Pekin. From a Photograph by Beato.

Another celebrated pagoda is that known as "Second Bar Pagoda," on the Canton river. It is a pillar of victory, erected to commemorate a naval battle which the Chinese claim to have gained near the spot. It is in design nearly identical with that of Nankin, but of smaller dimensions, and is now fast falling to ruin.

These two are of the usual and most typical form, and so like hundreds of others, that it is impossible to deduce any sequence from

them with such representations as we now possess. Though pleasing and purposelike, as well as original, they are somewhat monotonous in design. A tower divided into nine equal and similar storeys is a very inferior design to that of the minars of the Mahomedans or the ordinary spires of Christian churches; and if all were like these, we should be forced to deny the Chinese the faculty of invention in architecture. In



1154. Tung Chow Pagoda. From a Photograph by Beato.

the north, however, the forms seem much more various. One in the Summer Palace (woodcut No. 1153) is divided into either three or seven storeys, as you choose to count them. Four of the sides of the octagon are longer than the other four, and altogether there is a play of light and shade, and a variety about the ornaments in this tower, which is extremely pleasing. It is much more like an Indian design than any other known in China, and with the circle of pillars round

its base, and the Lât or Sthamba, which usually accompany these objects further west, it recalls the original forms as completely as any other object in this country.

In direct contrast to this is the Pagoda of Tung chow (woodcut No. 1154). Its thirteen storeys are almost more monotonous than those of the Nankin Pagoda; but they are merely architectural ornaments, string-courses in fact; and as the tower is not pierced with windows above the base, it becomes, like an Orissan temple, an imposing object of architectural art without any apparent utilitarian object. It thus escapes the charge of littleness in design, which only too justly applies to most of its compeers.

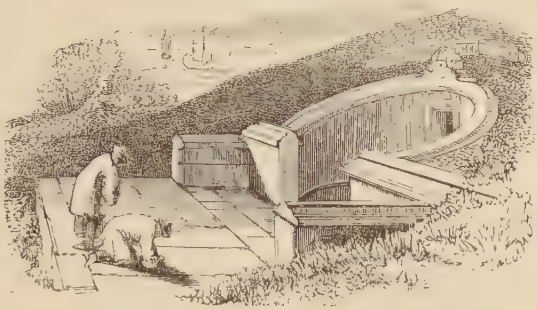
It is extremely difficult to form a correct estimate of the artistic merits of these towers. Edifices so original and so national must be interesting from that circumstance alone, and it seems almost impossible to build anything in a tower-like form of great height, whether as a steeple, a minar, or a pagoda, which shall not form a pleasing object from its salience and aspiring character alone, even without any real artistic merit in itself. Besides these qualifications, I cannot but think that the tapering octagonal form, the boldly-marked divisions, the domical roof, and general consistence in design and ornament, of these towers, entitle them to rank tolerably high among the tower-like buildings of the world.

Tombs.

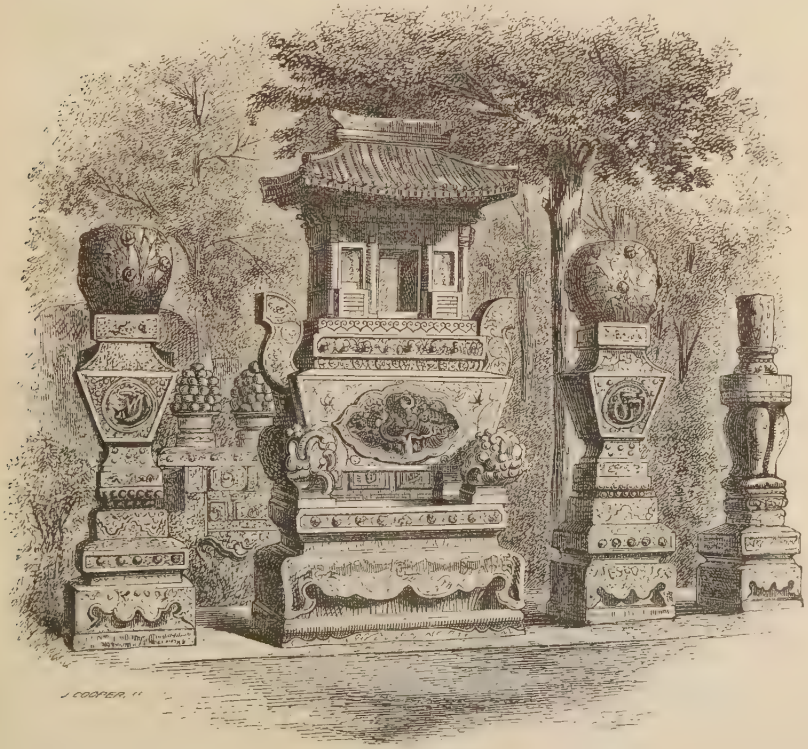
Like all people of Tartar origin, one of the most remarkable characteristics of the Chinese is their reverence for the dead, or, as it is usually called, their ancestral worship. In consequence of this, their tombs are not only objects of care, but have frequently more ornament bestowed upon them than graces the dwellings of the living.

1155. Chinese Grave. From Fortune's 'Wanderings in China.'

Their tombs are of different kinds; often merely conical mounds of earth, with a circle of stones round their base, like those of the Etruscans or ancient Greeks, as may be seen from the woodcut, No. 1155, borrowed from Fortune's 'China'—which would serve equally well for a restoration of those of Tarquinia or Vulci. More generally they are of a hemispherical shape, surmounted with a spire, not unlike the Indian and Ceylonese examples, but still with a physiognomy peculiarly Chinese. The most common arrangement is that of a horseshoe-shaped platform, cut out of the side of a hill. It consequently has a high back, in which is the entrance to



1156. Chinese Tomb. From Fortune's 'Wanderings in China.'



1157. Group of Tombs near Pekin. From a Photograph by Beato.

the tomb, and slopes off to nothing at the entrance to the horseshoe, where the wall generally terminates with two lions or dragons, or some fantastic ornament common to Chinese architecture. When the tomb is situated, as is generally the case, on a hill-side, this arrangement is not only appropriate, but elegant. When the same thing is imitated on a plain, it is singularly misplaced, and unintelligible. Many of the tombs are built of granite, finely polished, and carved with a profusion of labour that makes us regret that the people who can employ the most durable materials with such facility should have so great a predilection for ephemeral wooden structures.

When the rock is suitable for the purpose, which, however, seems to be rarely the case in China, their tombs are cut in the rock, as in Etruria and elsewhere; and tombs of the class just described seem to be a device for converting an ordinary hill-side into a substitute for the more appropriate situation.

Occasionally, however, the Chinese do erect tombs, which, though ornamental, are far from being in such good taste as the two forms just quoted. A tumulus is considered appropriate for this purpose all the world over, and so is the horseshoe form under the circumstances in which the Chinese employ it, but what can be said in favour of such an array of objects as those shown in the woodcut No. 1157. Judged by the standard of taste which prevails in China at the present day, they may be considered by the natives as both elegant and ornamental, but it would be difficult to conceive anything which spoke less of the sepulchre, even from a Chinaman's point of view; while, on the other hand, their dimensions are such as as to deprive them of all dignity as architectural objects.

PAILOOS.

The Pailoos, or "triumphal gateways," as they are most improperly called, are another class of monument almost as frequently met with in Chinese scenery as the nine-storeyed pagodas, and consequently nearly as familiar to the European eye. Their origin is as distinctly Indian as the other, though, from their nature, being easily overthrown, but few examples can be found in a country that has so long ceased to be Buddhist. Fortunately, however, we still possess in the gateway at Sanchi (woodcut No. 972) the typical example of the whole class: and we find them afterwards represented in bas-reliefs and in frescos in a manner to leave no doubt of the frequency of their application.

In China they seem almost universally to be employed as honorific monuments of deceased persons—either men of distinction, or widows who have not married again, or virgins who have died unmarried. Frequently they are still constructed in wood, and when stone is used they retain to this hour the forms and details of wooden construction. Whatever the material, they consist of either two or four

posts, set either on the ground, so as to allow a passage through, or on a platform, as in woodcut No. 1158. This is as usual a form as the other, and shows how inapplicable the term gateway is to these monuments. The posts always carry a rail or frieze bearing an inscription—which is, in fact, the object for which the monument was erected. Above this are various architectural details which complete the design in a manner both original and artistic.

1158. Pailoo near Canton. From a Sketch by the Author.

One which is crowned with a dagoba has already been given (woodcut No. 1150), and though rich, can hardly be considered as superior to that in woodcut No. 1159, which spans a street in Amoy. Instead of a simulated dagoba, which is appropriate to the

1159. Pailoo at Amoy. From Fisher's 'China Illustrated.'

Mongol monument, we have, in this instance, what appears to be a simulated coffin placed under a canopy, and above the principal cornice, which is as essentially Chinese. With them a handsome coffin is an object of the highest ambition, and is consequently a luxury which the rich take care to provide themselves with during their lifetime. So far as we know, no great structural dagobas ever existed in China, so that their form is generally unfamiliar to the people.

Probably the Chinese would have spent more pains on their tombs had they not hit on the happy device of separating the monument from the sepulchre. We do so in exceptional cases, when we erect statues and pillars or other monuments to our great men on hill-tops or in market-places; but as a rule, a man's monument is placed where his body is laid, though it would probably be difficult to assign a good logical reason for the practice. The great peculiarity of China is that in nine cases out of ten they effect these objects by processes which are exactly the reverse of those of Europe, and in most cases it is not easy to decide which is best. In erecting the Pailoo or monument in a conspicuous place apart from the sepulchre, they seem to have shown their usual common sense, though an architect must regret that the designs of their tombs suffered in consequence, and have none of that magnificence which we should expect among a people at all times so addicted to ancestral worship as the Chinese.

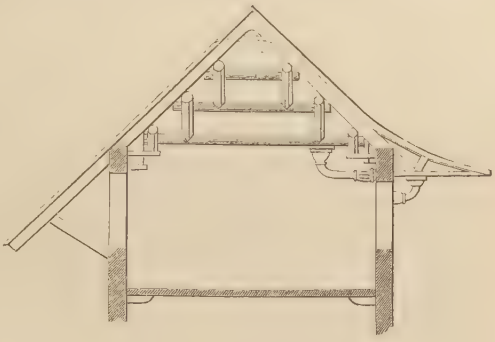
In an historical point of view, the most curious thing connected with these Pailoos seems to be, that at Sanchi, about the Christian era, we find them used as gateways to a simulated tomb. In India both the tumulus and the Pailoo had at that time passed away from their original sepulchral meaning: the one had become a relic-shrine, the other an iconostasis. Two thousand years afterwards in China we find them both still used for the purposes for which they were originally designed.

Domestic Architecture.

It is in their domestic architecture, if in any, that the Chinese excel; there we do not look either for monumental grandeur or for durability, and it is almost impossible to resist being captivated by the gaiety and brilliancy of a Chinese dwelling of the first class, and the exuberant richness and beauty of the carvings and ornaments that are heaped on every part of it.

One of the most remarkable peculiarities of their houses is the almost universal concave form of roof, which writers on the subject have generally referred to as a reminiscence of the tent of the Tartars, who are supposed to have introduced it. The authors of this theory, however, forgot that the Chinese have been longer out of tents, and know less of them, than any other people now on the face of the globe. The Tartar conquest, like our Norman one, has long been

a fusion rather than a subjection, and does not seem to have produced any visible effect on the manners or customs of the original inhabitants of China. It may also be observed that the typical form of the roof of a Tartar tent was and is domical, like those represented in the Assyrian sculptures, and seldom if ever constructed with a hollow curve; so that the argument tells the other way. Be this as it may, the form of roof in question arose from a constructive exigence, which others would do well to imitate. In a country like China, where very heavy rains fall at one season of the year, tiled roofs, such as they almost universally use, require a high pitch to carry off the water; but the glaring sunshine of another season renders shade to walls and windows absolutely necessary. If (as on the left of the annexed diagram) the slope of the roof is continued so far out as to be effective for the last purpose, the upper windows are too much darkened, and it is impossible to see out of them. To remedy this defect, the Chinese carry out their eaves almost horizontally from the face of the walls, where a leak becomes of slight importance; and then, to break the awkward angle caused by the meeting of these two slopes, they ease it off with a hollow curve, which not only answers the double purpose of the roof more effectually, but produces what the Chinese think—and perhaps rightly—the most pleasing form of roof.



1160. Diagram of Chinese construction.

The only parts of such a roof that admit of decoration by carving are evidently either the central or angular ridges; and here they exaggerate their favourite hollow curve to an extent unpleasing to a European eye—the angles being, in some instances, actually turned back, and the ridge being also ornamented by upturned ornaments at its ends, to an extent we cannot reconcile with our notions; nor indeed is it possible we should, when they are overloaded with grotesque ornaments to the extent too often found.

Another peculiarity that gives a very local character to their architecture is their mode of framing a roof, so unlike that of any other people. This arises from the timber most easily available for the purpose being a small pine, which has the peculiarity of being soft and spongy in the inside, while the outer rims of wood, just under the bark, retain their hardness and strength; it is thus practically a hollow wooden cylinder, which, if squared to form

a framing as we do, it would fall to pieces; but merely cleaned and used whole, it is a very strong and durable building-material, though one which it requires all a Chinaman's ingenuity and neatness to frame together with sufficient rigidity for the purposes of a roof.

The uprights which support these roofs are generally formed of the same wood, though not unfrequently they are granite posts—they cannot be called pillars—of the same dimensions, and strengthened, or rather steadied, by transverse pieces of wood, the space between which and the roof is generally filled with open-work carving, so as to form a species of frieze.

The roof is usually constructed (as shown in diagram No. 1160) by using three or four transverse pieces or tie-beams, one over the other, the ends of each beam being supported on that below it by means of a framed piece of a different class of wood. By this method, though to us it may look unscientific, they make up a framing that resists the strongest winds uninjured. Sometimes, as shewn in the dotted lines of the same woodcut, they carry the curve across the top of the roof; but when this is done they are obliged to have recourse to metal roofing, or to tiles of a greater length than are usually found or easily made.

As before remarked, however, it is not so much on its forms that Chinese architecture depends as on its colours—the pillars being generally painted red, the friezes and open work green; blue marks the floors and stronger lines, and gilding is used profusely everywhere. Whether this would improve a finer or more solid style of art may admit of doubt: but it is certainly remarkably pleasing in China, and singularly appropriate to the architecture we have been describing; and grouped as these buildings usually are around garden courts, filled with the gayest flowers, and adorned with rock-work and fountains more fantastic than the buildings themselves, the fancy may easily be charmed with the result, though taste forbids us to approve of the details.

The same ephemeral system of construction which prevailed in dwellings of the rich merchants and mandarins was carried out in the royal palaces without any increase of monumental character, but of course with greater richness of ornament, and upon a larger scale. Like most oriental palaces, however, those at Pekin consist of a number of detached pavilions, rather than of numerous suites of apartments grouped under one roof, as is usually the case in Europe; and they consequently never attain the magnitude essential to architectural dignity. In the Summer Palace at Pekin there were many detached pavilions similar to that represented in woodcut No. 1161, which, when interspersed with trees and water and rocky scenery, aid in making up a very fairy-like landscape, but in themselves can hardly be considered as objects of dignified architecture.

Occasionally, however, the Chinese attempted something more monumental, but without much success. Where glass is not available of sufficient size and in sufficient quantities to glaze the windows, there is a difficulty in so arranging them that the room shall not be utterly

1161. Pavilion in the Summer Palace, Pekin, from a Photograph by Beato.

dark when the shutters are closed, and that the rain shall not penetrate when they are open. In wooden construction these difficulties are much more easily avoided; deep projecting eaves, and light screens, open at the top, obviate most of them: at least, so the Chinese always thought, and they have consequently so little practice, that when they tried solid architecture in a palace they could only produce such a pavilion as that figured in woodcut No. 1162, which, though charac

teristic of the style, cannot be praised either for the elegance of its form or the appropriateness of its ornamentation.

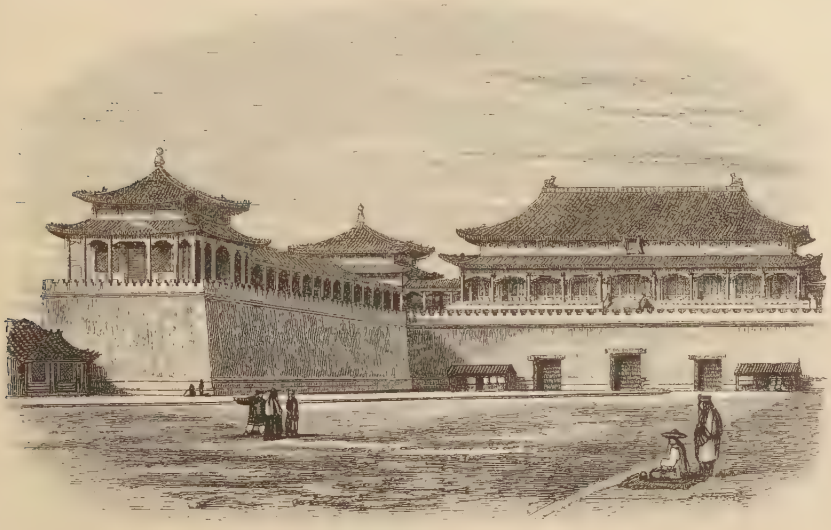
Perhaps their most successful efforts in this direction were when they combined a solid basement of masonry with a light superstructure

1162. Pavilion in the Summer Palace, Pekin. From a Photograph by Beato.

of wood, as in the Winter Palace at Pekin (woodcut No. 1163). In this instance the height and solidity of the basement give sufficient dignity to the mass, and the light superstructure is an appropriate termination upwards.

This last illustration is interesting, because it enables us to realise more distinctly than any other example yet known what must have

been the effect of the palaces of Nineveh and Khorsabad in the days of their splendour. Like this palace, they were raised on a solid basement of masonry, and were themselves composed of pavilions of light and ornamental woodwork; the great difference being that they had flat-terraced roofs instead of those covered with tiles as in snowy Pekin; but the resemblance is curious, and examples even more nearly akin might probably be found if looked for.



1163. View in the Winter Palace, Pekin. From a Photograph.

The engineering works of the Chinese have been much extolled by some writers, but have less claim to praise as works of science than their buildings have as works of art. Their canals, it is true, are extensive; but with 300 millions of inhabitants this is small praise, and their construction is most unscientific. Their bridges, too, are sometimes of great length, but generally made up of a series of small arches constructed on the horizontal-bracket principle, as nine-tenths of the bridges in China are, and consequently narrow and unstable. When they do use the true arch, it is timidly, and without much knowledge of its principles.

Their most remarkable engineering work is certainly the Great Wall, which defends the whole northern frontier of the country, extending over hill and dale for more than 1200 miles as the crow flies. It is, however, of very varying strength in different places, and seems to be strongest and highest in the neighbourhood of Pekin, where it has generally been seen by Europeans. There it is 20 ft. in height, and its average thickness is 25 at the base, tapering to 15 at the summit. There are also towers at short distances, whose dimensions are generally about double those just quoted for the wall.

However absurd such a wall may be as a defensive expedient, it proves that 200 years B.C. the Chinese were capable of conceiving and executing works on as great a scale as any ever undertaken in Egypt. The wonder is, that a people who 2000 years ago were competent to such undertakings should have attempted nothing on the same scale since that time. With their increasing population and accumulating wealth we might have expected their subsequent works to have far surpassed those of the Egyptians. It remains a problem to be solved, why nothing on so grand a scale was ever afterwards attempted.

However admirable and ingenious the modern Chinese may be, it is in the minor arts—such as carving in wood and ivory, the manufacture of vessels of porcelain and bronze, and all that relates to silk and cotton manufactures. In these they certainly excel, and reached a high degree of perfection in them while Europe was still barbarous, but in all the higher branches of art they take a very low position, and are utterly unprogressive.

They have no poetry, properly so called, and no literature worthy of the name. Their painting never rose much above the scale of decoration, their sculpture is more carving than anything we know by that name, and their architecture stands on the same low level as their other arts. It is rich, ornamental, and appropriate for domestic purposes, but it is ephemeral and totally wanting in dignity and grandeur of conception. Still it is pleasing, because truthful; but, after all, its great merit in the eyes of the student of architecture will probably turn out to rest on the light it throws on the earlier styles, and on the ethnographic relations of China to the surrounding nations of Eastern Asia.

BOOK VIII.

ANCIENT AMERICA.

CHAPTER I.

INTRODUCTORY.

CHRONOLOGY.

Toltecs arrived in Anahuac	A.D. 648	City of Mexico founded	A.D. 1125
—— abandoned the country	1051	Almitzotl conquered Guatemala	beginning of 16th century
Chichemecas arrived	1170	Spaniards arrived	1519
Acolhuans arrived	about 1200		
Aztecs reached Tula	1196		

Although considerable progress has been made during the last ten years in clearing away the mists that hang over most of the problems connected with American antiquities, much still remains to be done before we can give a distinct or satisfactory answer to many of the questions that arise regarding them. We cannot yet say positively whether the Toltecs, the Aztecs, and other tribes who inhabited the Valley of Mexico, were successive waves of one great immigration from the north, or whether they belonged to different races of mankind. We cannot tell whether there was any connexion between the civilization of Mexico and Peru. The historical difficulties are far from being settled, and, more than all these, it is still a matter of doubt whether American civilization is wholly original and indigenous, or whether any portion of it was derived from the old world.

The one consolatory fact in all this perplexity seems to be, that the materials certainly do exist by which it can be removed. So soon as any one conversant with such enquiries will undertake the investigation on the spot, he will be able to arrange all the buildings into chronological series, and fix at least their approximate dates. He will also be able to say how far the buildings in one province are akin to

those in another, and to separate those which belong to other races; and he will be able to tell us whether there is any essential similarity between the styles of the old and the new world, or whether the latter be really original. Whenever a sufficient number of photographs reach Europe the investigation may be undertaken here, but it will be very much easier on the spot. Hitherto the great difficulty has been that the drawings of American monuments—especially those published by Humboldt and Lord Kingsborough—cannot be depended upon. The one bright exception to this censure are those of F. Catherwood,[1] both those which he published separately, and those with which he illustrated the works of Mr. Stephens.[2] Had that artist undertaken to classify his work in a chronological series, he doubtless could have done it; but as the arrangement of the plates is purely topographical, and they are so far reduced to a common denominator by the process of engraving, the classification can hardly now be attempted by one not familiar with the buildings themselves. In the meanwhile there seems no good reason for doubting the conclusion which he and Mr. Stephens arrived at, that the cities which they rediscovered were those which were inhabited and in the full tide of their prosperity at the time of the Spanish Conquest. The buildings which we now see in ruins were probably then all in use, and many may have been in progress and unfinished at the time of that great disaster. On the other hand, it is extremely doubtful if any building in Central America can date from five centuries before that event: in Mexico some may be older, but their title to greater antiquity has not yet been satisfactorily made out.

Whatever uncertainty may exist with regard to Mexican history, there is nothing in it that can strictly be stigmatised as fabulous. The Mexicans do not pretend to any very remote antiquity or divine descent. There are no heroes who live thousands or tens of thousands of years; nor any of the other extravagances that usually mark the dawn of history in the old world. On the contrary, the Mexican annals modestly commence with the arrival of the Toltecs in Anahuac in the 5th or 6th century, and with the beneficent teaching of a stranger, Quetzalcoatl, who lived among them, taught them architecture and the agricultural arts, instructed them in their religious duties, and then, like Lycurgus fifteen centuries earlier, left them by sea, promising to return.

For 300 or 400 years from this time the Toltecs lived in peace and prosperity, covering the table-land, it is said, with their monuments. But evil times came; famine, internecine wars, and disasters—inter-

[1] 'Views of Monuments in Central America, Chiapas, and Yucatan.' 25 plates, folio. London, 1844.

[2] 'Incidents of Travel in Central America and Yucatan,' by J. L. Stephens. 1st and 2nd series, 4 vols. 8vo. Murray, 1841, 1843.

preted as evidences of the wrath of the gods—drove them from their homes, and they migrated, it is said, southwards to Yucatan; where it is usually assumed that they erected the architectural monuments we now find in that country.

Central America is, however, one of the most fertile countries in the world, and capable of supporting—indeed did support—an immense population with very little labour; so it seems probable that it was inhabited long before the time mentioned.[1] This, however, by no means militates against the idea that the Toltecs may have been the first to communicate to their new country many of the arts they had elaborated in Anahuac. Indeed, it is to such a combination of two not very dissimilar races that all the greatest results in art or civilization have been attained in other parts of the world, and it may have been the case here also.

Politically the annals of Anahuac are a blank between the departure of the Toltecs, and the arrival of the Aztecs in the middle of the 12th century. These seem to have been a people of different race from the former occupants of the valley, but sufficiently akin to take up the previous civilization; and being reinforced by successive immigrations of tribes of the same race, and speaking apparently similar languages, they had at the time of the arrival of the Spaniards fully repeopled the valley, and elaborated a very considerable degree of civilization.

Again everything we read of, and every indication we have, leads us to suppose that the greatest development of civilization in Mexico took place immediately before the Spanish conquest, and thus that the time of highest prosperity was that which directly preceded their destruction. Four centuries had apparently sufficed to convert a tribe of Red Indians into a tolerably civilized community. Whatever their civilization may have been, it could not have attained a very permanent character, for it vanished like a phantom at the first touch of the European; and the remnants of the Indian that still exist are as incompetent creatures as exist in any part of the world.

Till the investigations of the ethnologist are further advanced, it is impossible to feel any great confidence in the various theories that have been advanced on this subject. Without wishing to put it forward as a thing to be relied upon, it appears to me that the following scheme meets more nearly than any other the requirements of the case, while it amalgamates more perfectly the various facts ascertained by scientific men.

It is generally admitted, that two races of men are found, either

[1] The evidence collected by the Abbé Brasseur de Bourbourg, 'Voyage de Tehuantepec,' seems to confirm this idea.

now living or whose remains are found in Mexican sepulchres. One of these is said to be allied to the Esquimaux, or races of that class, the other to the Red Indians. The former, I cannot help thinking, represent the Toltecs. It does seem that all along the east coast of America from Behring's Straits to California, races have always existed more or less closely allied to the Kamtchatdales or Esquimaux; and these may, at some early period, have advanced to the plains of Mexico. If they were of that blood there is no difficulty in understanding how they became builders.

On the other hand, there seems little doubt that the Aztecs were Red Indians, allied to those tribes who, so far as we know, always inhabited the valley of the Mississipi, and the countries to the eastward of it. They may have been capable of taking up an earlier civilization, and, if their blood was mixed at all with the earlier inhabitants, of carrying it further; but in themselves they are utterly unprogressive and incapable of developing any attributes of civilized life.

In Yucatan we certainly have another race, but whether they were Caribs, or some other people whose traces have been lost, cannot now be easily ascertained. In Peru, and possibly also further north, there is certainly a strongly developed Polynesian element, and there may be other races still; but these four alone, mixed in varying quantities, are more than sufficient to account for all the varieties we find there in the course of our enquiries.

There still remains one question which is more germane to our present subject than even the others, though perhaps on the whole still more difficult to answer. It is this: Are the civilization and arts of the ancient Americans original and indigenous, or did they receive any impulse from the natives of the old world? One part of this may easily be disposed of. The absence of all domestic animals, the possession of only one of the cereals, the total ignorance of alphabetic writing and of the use of iron—though the country is full of the ore—and many other minor facts, seem sufficient to prove that no immigration of tribes or families could have taken place in such numbers as to bring their animals, their grain, or their materials, with them. This, however, by no means precludes the possibility of many missionaries having reached their shores, who, though bringing nothing but what they carried in their brains, could communicate doctrines, teach arts, and improve processes, and so communicate much of the civilization of the countries from which they came.

Without laying too much stress on the somewhat mythic story of Quetzalcoatl, though there seems no good reason for doubting its main features, we have only to refer to the history of India between 250 B.C. and 700 A.D. to see what missionary zeal prevailed in those days.

Asoka set the example, and by his missionaries and their successors the doctrines of Buddha were propagated from the shores of the Mediterranean to the Yellow Sea: or, what is more to our purpose, we have only to read the travels of Fa Hian and Hiouen Thsang to see what dangers by land and sea the Chinese missionaries between the 4th and 7th centuries were prepared to brave in the service of the faith. It probably would have been easier to travel to Mexico from China *viâ* Behring's Straits than to reach India through Central Asia, and to return from Ceylon by sea. Whether or not such a journey was ever accomplished, is another question. I do not think that either Neumann[1] or D'Eichthal have at all made out a satisfactory case to prove that the country of Fusang, from which the pilgrim Hoei shin returned to China in the year 499, was Mexico. On the contrary the evidence of the domestic animals, &c., he speaks of, and other important details, all seem to tell the other way. It looks more as if Vancouver Island, or the coast thereabout, was the place indicated. But are there any remains of a half-civilized people there? Be this as it may, the story, which is authentic as far as it goes, seems to prove that Northern America was in communication with Northern Asia in the 5th century.

D'Eichthal's argument, that the Mexican sculptures are Buddhist, seems even more groundless. I have carefully examined the examples he adduces, and, from a tolerably intimate acquaintance with Buddhist art in Asia, may be permitted to say that I can see no trace of it in Mexico. If the argument were based on that Serpent-worship which almost everywhere underlies Buddhism in the old world, it would not be so easy to refute it. There is a very considerable likeness between the sculptured forms of the Serpent-worship in the old and in the new world. But it is a serious question, whether this arose from a similar instinct in the two races, or was communicated from the one to the other. My present impression is in favour of some intercommunication in so far as Serpent-worship is concerned.

Our knowledge of the architecture of Eastern Asia and of Western America is not yet sufficiently precise to enable us to base any very pointed argument upon it. It is curious, however, that as we advance eastward from the Valley of the Euphrates at every step we meet with forms of art, becoming more and more like those of Central America. When we reach the sea we encounter at Suku in Java a teocalli, which is absolutely identical with that of Tehuantepec. In Cambodia we have teocallis at Bakong and Bakeng, and no one would be

[1] Ausland, 1845, Nos. 165, 168.
[2] D'Eichthal, 'Revue Archæologique,' vol. x. 1864, p. 188, and following numbers.
[3] Sir Stamford Raffles' 'History of Java,' vol. ii. p. 51.

startled if told that the temple represented in woodcut No. 1148 was found in Yucatan. In China many of the crinkum-crankums of their art find their close counterparts in America. But for the distance and the geographical difficulties, no one probably would hesitate to admit that the architecture of America may have been borrowed from the old world. But how did it cross the ocean? At present that barrier seems almost insurmountable. But it may not always remain so: the enquiry is still in its infancy, and the tendency of all recent researches has been to show that there were more means of communication and a more direct connexion between the nations of the world in ancient times than we have hitherto been disposed to believe was likely or even possible.

CHAPTER II.

CENTRAL AMERICA.

CONTENTS.

Historical Notice — Central American style — Temples — Palaces — Buildings at Palenque — Uxmal, &c.

The Valley of Mexico, in which the first group of buildings we have to describe is situated, is a small tract in the centre of the tableland of Anahuac. Though not larger than Yorkshire, and one-third of it permanently under water, it was, at the time we first became acquainted with it, divided into three or four small states, which, notwithstanding continual wars among themselves, had managed to acquire a considerable degree of material prosperity. After making every allowance for the exaggeration of the Spanish and native historians, the remains of the Aztec capitals attest an amount of population and a degree of organization which it is impossible to overlook or deny, and it seems that it was at their last moment that this development was greatest; for, immediately before the Spanish Conquest, all the states of the valley, tired of their ruinous wars, had joined their forces together, and, thus combined, proved more than a match for any of the surrounding states. They spread their arms and influence to the Mexican Gulf, penetrated to the shores of the Pacific, and on one occasion are even said to have crossed the Isthmus of Tehuantepec, and reached the confines of Guatemala. These last expeditions seem to have been undertaken merely to obtain prisoners for their horrid rites of human sacrifice, of which they were becoming passionately fond; and they made no settlement in these countries sufficient to influence either their arts or institutions in any way. Shortly after this, the conquest of the Spaniards under Cortes put an end to the kingdom and power of the Aztecs for ever.

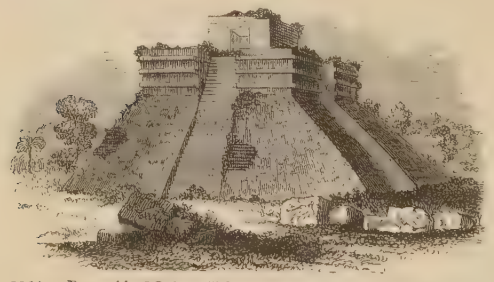
The principal monuments of the valley are the Teocallis—literally Houses of God—the Temples of the people. These are pyramids in terraces with flat tops, and always surmounted by a chamber or cell, which is in fact in the temple itself. They seem to be of all ages, for, if one may trust the tradition, that of Cholulu is as old as the early Toltecs, whereas the great Teocalli of the city of Mexico was only finished five years before the discovery of America by Columbus, and the Spaniards met with many persons who had assisted in its erection. It has, however, with all the native buildings of the city, been

swept away by the ruthless bigotry of the conquerors. Independent of its own interest, this is the more to be regretted as the possession of a single monument of authentic date would form a starting point for our investigations, and serve as a check on all our theories.

Of these teocallis, the largest, probably also the oldest, is that of Cholulu. Its dimensions, in so far as they can be ascertained in its present ruinous state, are 1440 ft. square and 177 ft. in height, divided in four storeys, the fifth being formed by the cell or temple, which has now been replaced by a chapel dedicated to the Virgin Mary. The whole is composed of badly burnt bricks and mud, and is now so overgrown with trees, that it is difficult to make out its form, but in Humboldt's time it apparently was freer from obstruction and more easily traced.

There are two pyramids at Teotihuacan, the largest of which is apparently a square of 645 ft., with a height of 171, and there are others at Tezcuco of about the same dimensions, and, like them, divided into five or seven storeys, but the most interesting of those yet brought to light is that of Xochicalco. It is situated on the top of what appears to be a natural elevation, but which has been fashioned into terraces by art. The pyramid itself is in five storeys, the stone facing of the three upper of which has been removed to repair a sugar-mill in quite recent times, but the two lower still retain their sculptures and architectural ornaments. Mr. Tylor gives the date of 945 to this building,[1] and there does not seem to be any reason for doubting its general correctness. If it is so, the possession of photographs of its bas-reliefs and cornices would go far to clear up half the difficulties which beset the question.[2] One monument in the middle of the series with sculptural and architectural details, and an authentic date, is nearly all that is required for the purpose.

Besides these great many-storeyed pyramids there are numerous examples in various parts of the country, of one storey only; several of these have been described, but unfortunately not drawn. Their general arrangement may, however, be judged of from the annexed example from Oajaca. Like all others in Mexico, it is only a device to raise a temple to such a height as should give it dignity and enable the ceremonies performed on its upper platform to be seen by all the people.



1164. Pyramid of Oajaca, Tehuantepec. From the 'Smithsonian Contributions to Knowledge.'

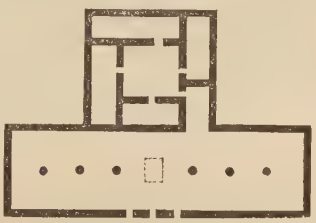
[1] 'Anahuac,' by Edward B. Tylor, 1861; pp. 188, 194.

[2] The plate published by Humboldt representing one of the bas-reliefs is so incorrect as to be absolutely worthless.

It is indispensably necessary to bear this distinction in mind, in speaking of these monuments, as careless writers connecting the word Pyramid with Egypt have been too apt to confound together two classes of monuments entirely distinct and dissimilar. The Egyptian pyramid is always a tomb. The principal object of its erection is in the sepulchral chamber in its centre. It always teminates upwards in a point. In no instance are there external steps leading to a cell or chamber on the apex. In fact, they were always tombs: never temples. The Assyrian pyramids, on the contrary, have much more affinity with the buildings of which we are now speaking. They were always in terraces, the upper platform was always crowned by a chamber or cell, and there were external steps leading to this, which was the principal object of the erection. In the preceding pages we have traced this form of temple to the shores of the Eastern Ocean. If we still, however, hesitate to pronounce that there was any connexion between the builders of the pyramids of Suku and Oajaca, or the temples of Xochicalco and Boro Buddor, we must at least allow that the likeness is startling and difficult to account for on the theory of mere accidental coincidence.

One thing, at all events, seems clear. If we are at any time to trace a connexion between the architecture of the new and the old world it is in the direction above indicated that light is to be looked for. At all events it seems as if it could not now be long before we ascertain whether any connexion did exist between the arts of the two continents, or whether we may regard that of America as wholly indigenous.

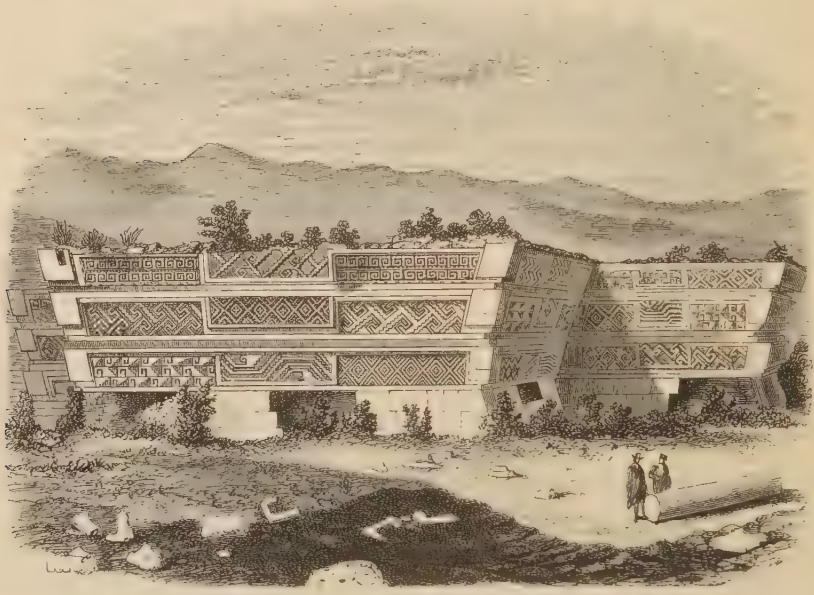
Almost, however, as if to warn us to beware of jumping too rapidly to conclusions of this class, we meet in Mexico occasionally with such a monument as that at Mitla, which is so entirely original as to defy the stoutest advocate to find an associate for it. As will be seen from the annexed plan, it consists of a portico, measuring 160 ft. across, its roof supported by a row of six pillars down the centre, and having behind it a square building, measuring about 65 ft. each way, in the centre of which is a court with four apartments opening into it, the entrances of which are so arranged as to secure the utmost amount of privacy. Originally there appear to have been four such buildings, arranged round a court-yard, but only one is now perfect. If, however, the plan is original, the style of ornamentation is still more so. The walls slope outwards, which is not the case in any other known building. The panels are filled with frets and forms such as are only found in Mexico, and are entirely unlike anything found elsewhere; and the whole building is such, that if it stood alone, or all Mexican buildings were like it, we should at



1165. Plan of Temple at Mitla. Scale 100 ft. to 1 in.

once be obliged to admit that the style was entirely original, and formed without any connection with the older world.

Its use is said to be sepulchral, and there are underground chambers which would countenance that belief, according to our views. In hot climates, however, subterranean apartments are appropriate rather to the living, and are, when met with, generally the best in the house; so that, without some more evidence, it would appear rather to be a palace, which the arrangement of its internal chambers and its whole appearance would more certainly indicate. Its age is not known, but in the Aztec paintings executed immediately before, and in some instances subsequently to, the conquest, the same



1166. View of Palace at Mitla. From 'Smithsonian Contributions to Knowledge,' vol. ix.

forms and the same style of decoration constantly appear. This is not conclusive, for the same architectural forms may in this country have prevailed throughout, for anything we know; but judging by the rules of European criticism, the building does not date from long before the time of the conquest.

Whenever a stable government is established in that unhappy country, and the artist and photographer are enabled to pursue their occupations in security and at leisure, it is to be hoped that materials will become available for completing this chapter of our history. At present, it must remain nearly a blank, because so few representations of Mexican monuments exist on which reliance can be placed.

Yucatan.

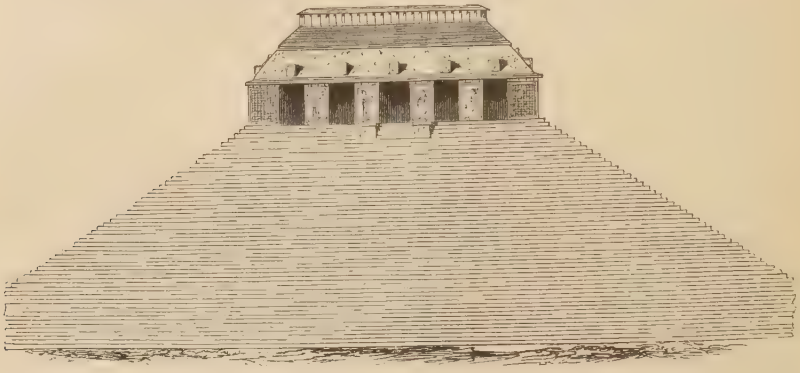
It is extremely difficult to determine whether it is owing to their original paucity, or to their destruction by the Spaniards, that the monuments in the province of Mexico are now so few and far between. If we may judge from the glowing descriptions of the conquerors, and the analogy of the remains in Yucatan, we may almost certainly ascribe their disappearance to the bigotry or the avarice of the Europeans. Be this as it may, it is certain that the moment we pass the southern boundary of Mexico and enter the peninsula generally known as Yucatan, which for our present purpose must be considered as including Costa Rica, we find a province as rich in architectural remains as any of the same extent in the old world, not even excepting Cambodia, which is the one it most nearly resembles. In this region Messrs. Stephens and Catherwood visited and described between fifty and sixty old cities; and, if we may trust native reports, there are others in the centre of the land even more important than these; but which have not been visited by any European in modern times. Of the cities described by these travellers, Uxmal, Palenque, Kabah, Chichen Itza, and others, are really magnificent. The first-named almost rivals Ongcor in splendour and extent, though it falls far short of it in the elegance or beauty of detail of its buildings.

As before hinted, there seems no reason for dissenting from the conclusion Messrs. Stephens and Catherwood arrived at regarding their age. It is deliberately expressed by the last-named author in his folio work (page 8) in the following terms:—"I do not think we should be safe in ascribing to any of the monuments which retain their forms a greater age than from 800 to 1000 years; and those which are perfect enough to be delineated I think it is likely are not more than from 400 to 600 years old." In other words, they belong to the great building epoch of the world—the 13th century, or a little before or after that time.[1] It seems more than probable, therefore, that the great buildings at Uxmal are contemporary with the temples of Nakhon Wat and Hullabeed, and the cathedrals of Rheims and Toledo. Whether or not there was any communication direct or indirect between these buildings, which are geographically so remotely distant, is another question, to which no satisfactory answer can be given in the present state of our knowledge, and if any is attempted, it must be a negative one.

As in Mexico the principal monument of Yucatan is the Teocalli.

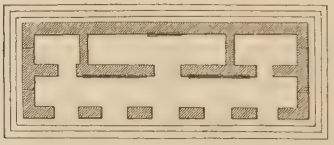
[1] There is a celebrated bas-relief on the back wall of a small temple at Palenque, representing a man offering a child to an emblem very like a Christian cross. It is represented in the first series of the 'Incidents of Travel,' vol. ii. p. 344. None of the sculptures have given rise to such various interpretations; but nothing would surprise me less than if it turned out to be a native mode of representing a Christian baptism, and was therefore subsequent to the conquest.

In the latter province, however, they seem to differ somewhat in design from those above described. They are not generally in terraces, but rise, at an angle of about 45°, to the level of the platform on which the temple stands; and a magnificent unbroken flight of steps leads from the base of the building to its summit. Almost all these retain more or less of



1167. Elevation of Teocalli at Palenque. Scale 50 ft. to 1 in.

the remains of architectural magnificence that once adorned their summits. The annexed woodcut, No. 1167, representing the elevation of a temple at Palenque supported by a pyramid (the plan of which is shewn below), will give a good general idea of their form.. The pyramid is about 280 ft. square, and 60 ft. in height: on the top of it stands the temple, 76 ft. wide in front, and 25 ft. deep, ornamented in stucco with bassi-relievi of better execution than is usually found in these parts, and with large hieroglyphical tablets, whose decipherment, were it possible, would probably reveal to us much of the history of these buildings.



1168. Plan of Temple. Scale 50 ft. to 1 in

The roof is formed by approaching courses of stone meeting at the summit, and following the same outline externally, with curious projections on the outside, like dormer windows, but meant apparently either for ornament or as pedestals for small idols, or for some similar purpose.

The other temples found in Yucatan differ but little from this one, except in size, and, architecturally speaking, are less interesting than the palaces—the splendour of the temple consisting in the size of its pyramid, to which the superstructure is only the crowning member: in the palace, on the other hand, the pyramid is entirely subordinate to the building it supports, forming merely an appropriate and convenient pedestal, just sufficient to give it a proper degree of architectural effect.

In speaking of the palaces it would be most important, and add very much to the interest of the description, if some classification could be made as to their relative age. The absence of all traces of history makes this extremely difficult, and the only mode that suggests itself is to assume that those buildings which show the greatest similarity to wooden construction in their details are the oldest, and that those in which this peculiarity cannot be traced are the more modern.

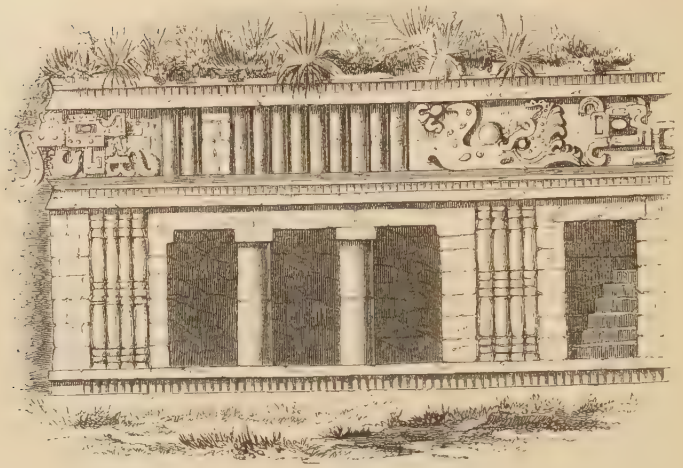
This at least is certainly the case in all other countries of the world where timber fit for building purposes can be procured: there men inevitably use the lighter and more easily worked vegetable material, long before they venture on the more durable but far more expensive mineral substance, which ultimately supersedes it to so great an extent. Even in Egypt, in the age of the pyramid-builders, the ornamental architecture is copied in all its details from wooden constructions. In Greece, when the art reached its second stage, the base is essentially stone, and the upper part only copied in stone from the earlier wooden forms: and so it was apparently in Mexico; the lower part of the buildings is essentially massive stone-work, the upper part is copied from forms and carvings that must originally have been executed in wood, and are now repeated in stone.

The annexed woodcut, for instance, represents in its simplest form what is repeated in almost all these buildings —a stone basement with square doorways, but without windows, surmounted by a superstructure evidently a direct copy of woodwork, and forming part of the construction of the roof.

1169. Elevation of Building at Chunjuju. From a Drawing by F. Catherwood.

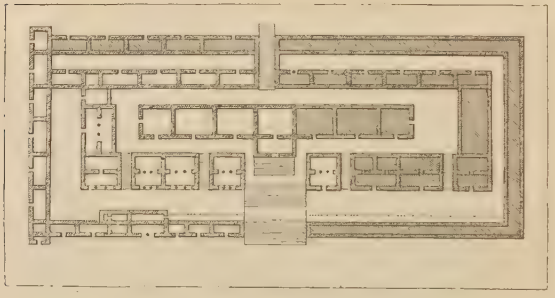
In most cases in Yutacan the superstructure is elaborately carved with masks, scrolls, and carvings, similar to those seen on the prows of the war-boats, or in the Moraïs or burying-places of the Polynesian islanders.

Sometimes pillars are used, and the wooden construction is carried even lower down, though mixed in that case with parts of essentially lithic form. Barring the monstrosity of the carvings, there is often, as in the palace at Zayi (woodcut No. 1170), a degree of elegance in the design by no means to be despised, more especially when, as in this



1170. Elevation of part of Palace at Zayi. From a Drawing by F. Catherwood.

instance, the building rises in a pyramidal form in three terraces, the one within and above the other, the lowest, as shown in the plan (woodcut No. 1171), being 260 ft. in length, by 110 ft. in width. This, though far from being the largest of these palaces, is one of the most remarkable, as its terraces, instead of being mere flights of steps, all present architectural façades, rising one above the other. The upper and central tier may possibly have been a seven-celled temple, and the lower apartments appropriated to the priests, but it is more probable that they were all palaces, the residences of temporal chiefs, inasmuch as at Uxmal a pyramidal temple is attached to the building called the Casa del Gubernador, which is extremely similar to this, though on a still larger and more ornate scale. There are other instances of the palace and temple standing together.

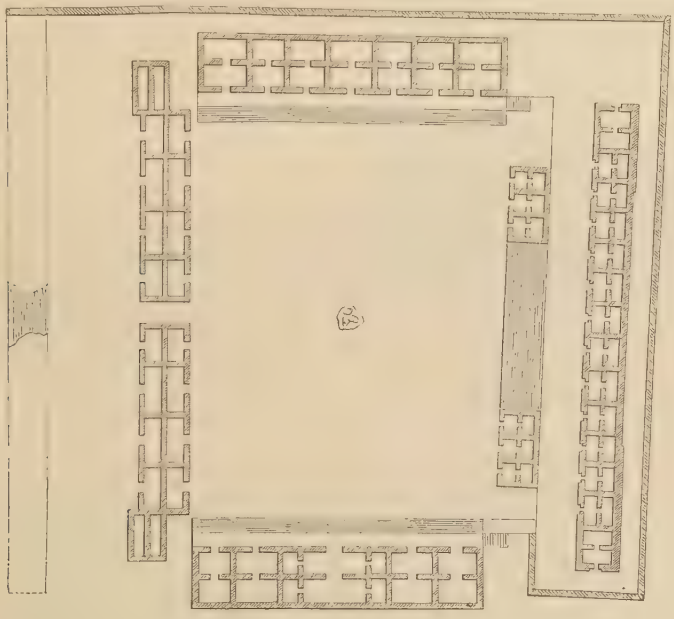


1171. Plan of Palace at Zayi. Scale 100 ft. to 1 in.

Sometimes, instead of the buildings standing within and above each other, as in the last example, they are arranged around a court-yard, as in that called the Casa de las Monjas at Uxmal (woodcut No. 1172), one of the most remarkable buildings in Central America, for its size, as well as for the elaborateness of its decorations. It is raised on three low terraces, reaching a total height of 20 ft. The block to the

south, 260 ft. long, is pierced by a triangular-headed gateway, 10 ft. 8 in. wide, leading to a court-yard, measuring upwards of 200 ft. each way, and surrounded on all sides by buildings, as shown in the plan; which, though only one storey in height, from their size and the elaborateness of their decorations, form one of the most remarkable groups of buildings in the world.

In the same city is the other building, just referred to, called the Casa del Gubernador, somewhat similar to the principal of the three edifices composing the Casa de las Monjas, but larger and even more elaborate in its decorations. It stands alone, however, with only a temple attached unsymmetrically to one angle of it.



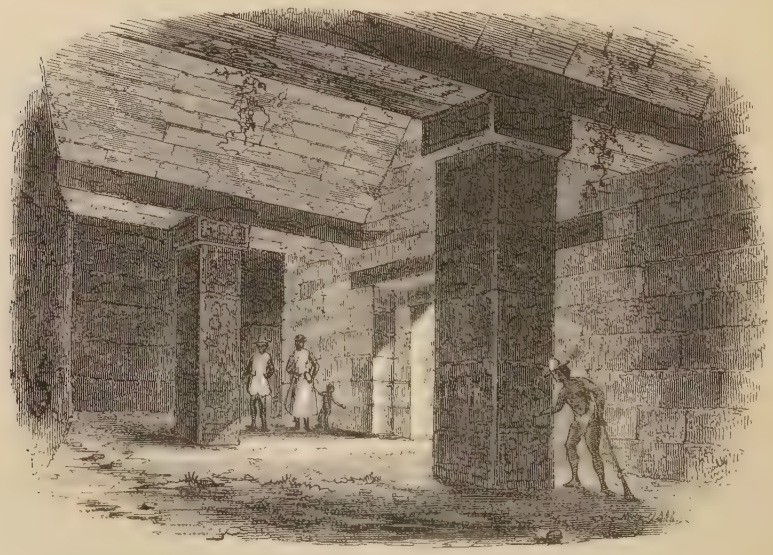
1172. Casa de las Monjas, Uxmal. Scale 100 ft. to 1 in.

With regard to construction, as above remarked, the style may be generally characterized as one remove from the original wooden construction of early times. No wooden buildings, or even wooden roofs, now remain, nor could any have been expected to resist the effects of the climate; but many of the lintels of the doorways were formed by wooden beams, and some of these still remain, though most of them have perished, bringing down with them large portions of the walls which were supported by them. In other instances, and generally speaking in those that seem most modern, the upper parts of the doorways, as well as the roofs of the chambers, are formed by bringing the courses nearer together till they meet in the centre, thus forming a horizontal arch, as it is called, precisely as the Etruscans and all the earlier

tribes of Pelasgic race did in Europe at the dawn of civilization, and as is done in India to this day. This form is well shown in the annexed woodcut, representing a chamber in the Casa de las Monjas at Uxmal, 13 ft. wide. The upper part of the doorway on the right hand has fallen in, from its wooden lintel having decayed.

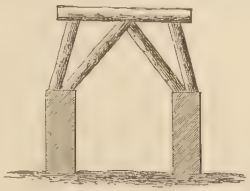
1173. Interior of a Chamber, Uxmal. From a Drawing by F. Catherwood.

A still more remarkable instance of this mode of construction is shewn in the woodcut No. 1174, representing a room in a temple at Chichen Itza in Yucatan. The room is 19 ft. 8 in. by 12 ft. 9 in.; in the centre of it stand two pillars of stone, supporting beams of sapote-wood, which also form the lintels of the door, and over these is the stone vaulting of the usual construction: the whole apparently still perfect and entire, though time-worn, and bearing the marks of as great age as any of the other buildings of the place.



1174. Apartment at Chichen Itza. From a Drawing by F. Catherwood.

When the roof was constructed entirely of wood, it probably partook very much of the same form, the horizontal beam being supported by two struts meeting at the centre, and framed up at the sides, which would at once account for the appearances shown in the woodcuts Nos. 1169, 1170. It is also probable that both light and air were introduced above the walls, between the interstices of the wood-work; which is further confirmed by the strange erection on the top of the Casa at Palenque (woodcut No. 1167), where the openings look very like the copy of a ventilator of some sort.



1175. Diagram of Mexican construction.

It is, of course, impossible to ascribe any very remote antiquity to buildings containing so much wood in their construction, and erected in a climate so fatal to the durability of any class of buildings whatever. In addition to this, it must be borne in mind that the bas-reliefs are generally in stucco, which, however good, is still a very perishable material, and also that the painting on these and on the walls is still bright and fresh. In such a climate as that of Egypt no argument could be drawn from these circumstances; but in a country subject to tropical rains and the heat and dryness of a tropical summer the marvel is that they should have lasted four or five centuries, and still more that they should have resisted so long the very destructive powers of vegetation. Taking all these circumstances together, the epoch of their erection does not seem a matter of doubt, and all that remains for the elucidation of their history is that they should be arranged in a sequence during the six or eight centuries which may have intervened between the erection of the oldest and the most modern of these mysterious monuments.

CHAPTER III.

PERU.

CONTENTS.

Historical Notice — Titicaca — Tombs — Walls of Cuzco, &c.

CHRONOLOGY.

Manco Capac . . . . . 13th century. | Conquest by Pizarro . . . . . A.D. 1534

PERU is situated geographically so near to Mexico, and the inhabitants of both countries had reached so nearly to the same grade of civilization at the time when the Spaniards first visited them and destroyed their native institutions, that we might naturally expect a very considerable similarity in their modes of building and styles of decoration. Nothing, however, can be further from the fact: indeed it would be difficult to conceive two people, however remotely situated from one another, whose styles of art differ so essentially as these two.

The Mexican buildings, as we have just seen, are characterized by the most inordinate exuberance of carving, derived probably, with many of the forms of their architecture, from wooden originals. Peru, on the other hand, is one of the very few countries known where timber appears to have been used in primitive times so sparingly that its traces are hardly discernible in subsequent construction: and, either from inability to devise, or from want of taste for, such a mode of decoration, the sculptured forms are few and insignificant.

The material which the Peruvians seem to have used earliest was mud, and many walls of this substance, erected certainly before the Spanish conquest, still remain in a state of very tolerable preservation. The next improvement on this seems to have been a sort of rubble masonry or concrete: the last, a Cyclopean masonry of great beauty and solidity. None of these forms, nor any of their derivatives, are found in Mexico; the climate would not permit of the use of the first — hardly of the second; and in all their buildings, even the earliest, the Mexicans seem to have known how to use stones carefully squared, and set with horizontal beds.

Another distinction which Peruvian art has in common with many

of those derived from purely stone construction, is the sloping sides of the openings—a form invented on purpose to diminish the necessary size of the lintel. There are two discharging arches so constructed at Uxmal, but, so far as is known, none anywhere else; and no single opening of that class in the whole architectural province of Mexico. The roofs and upper parts of the larger openings, on the contrary, almost universally slope in that country. In Peru the roofs are always flat, or domical, and the sides of the openings always straight-lined.

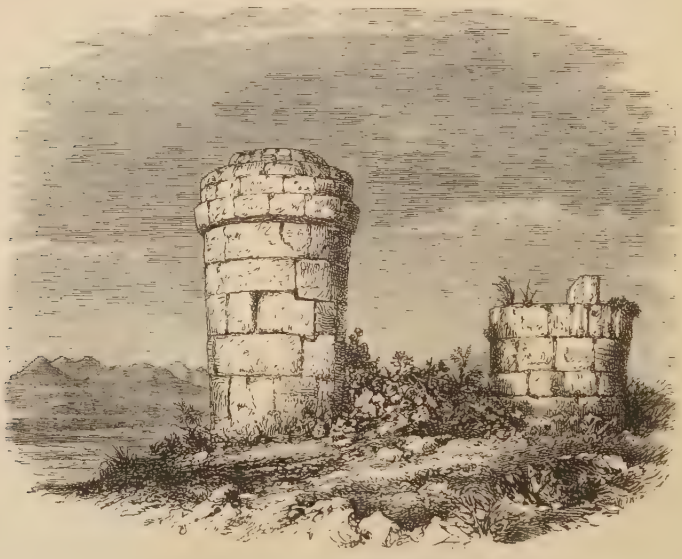
These remarks ought perhaps, in strictness, to be applied to the architecture of the Incas alone—the only one with which we have hitherto been made acquainted. Recently, however, it has dawned upon us, that before the time of Manco Capac the regions of Peru about the lake Titicaca were inhabited by a race of Aymaras, who have left traces of their art in this region. Some small stereoscopic photographs of the remains of Tia Huanaco have reached this country, and from them we gather that the style is essentially different from that described above. There are at least two doorways of the ordinary size, which are each cut out of a single block of stone, the largest stands now 10 ft. out of the ground, and is 13 ft. 3 in. across. The jambs are perpendicular, the surfaces beautifully polished, and the arrises sharp and clear. On the upper part of the large doorway, in the centre, is a mask, and on each side of it a number of square divisions, which, with the figures and symbols they contain, are incised in the stone.

There is also at Tia Huanaco a great mound, apparently about 1000 ft. long by 400 in width, but the stone revêtment that gave it form has been removed in modern times, so that its shape is undistinguishable. It was apparently surrounded by a range of monolithic pillars or obelisks, like a Ceylonese dagoba, and had a wall of Cyclopean masonry outside these. There is also a square marked out by similar pillars, each of a single stone, 18 to 20 ft. in height, but whether originally connected or not cannot now be ascertained. The wonder of the place, however, is a monument of very uncertain destination, called the "Seats of the Judges," consisting of great slabs of stone—there are either three or four, each 36 ft. sq., and 5 ft. thick, at one end of which the seats are carved. Without detailed plans and drawings it is difficult to form any reliable opinion regarding these remains, but it does seem that the people who executed them had a wonderful power of quarrying and moving masses, and an aspiration after eternity very unlike anything else found in this continent, and the details of their ornamention neither resemble those of Mexico nor the succeeding style of the Incas.[1]

[1] For the principal part of this information I am indebted to Mr. William Pollaert, and the photographs of the Messrs. Helsby, of Liverpool.

In his travels in Peru, Mr. Markham describes several towers as existing at Sillustani (woodcut No. 1176), which he ascribes to the same people. These are certainly sepulchral, and are still filled with bones which were apparently thrown in by an opening at the top, and rested in a chamber in the centre of the building.

Mr. Markham informs us that there are several other monuments of this class in the same district, about which it would be extremely interesting to know more. As there seems little doubt that they are older than the time of the Incas they must modify to a considerable extent any opinion we may form with regard to the origin of their art,



1176. Tombs at Sillustani. From a Drawing by Clements Markham, Esq.

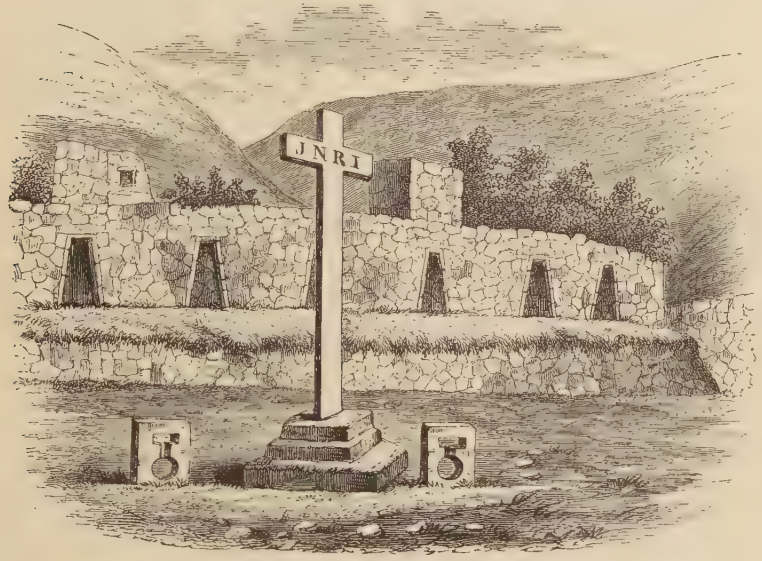
though at the same time they add another to the unsolved problems connected with American architecture.

Besides the strongly-marked distinction that exists between the architecture of Mexico and Peru, we have the negative evidence of their history and tradition, which make no mention of any intercourse between the Peruvians and any people to the northward. This, however, is not of much weight, as there are no accounts at all which go farther back than three or four centuries before the Spanish conquest, and our knowledge of who the Aymaras were is still vague in the extreme.

At about that period it is fabled that a godlike man, Manco Capac, appeared with a divine consort on an island in the lake of Titicaca, journeying from whence they taught the rude and uncivilized inhabitants of the country to till the ground, to build houses and towns,

and to live together in communities; and made for them such laws and regulations as were requisite for these purposes.

Like the Indian Bacchus, Manco Capac was after his death reverenced as a god, and his descendants, the Incas, were considered as of divine origin, and worshipped as children of the Sun, which was the great object of Peruvian adoration. At the time of the Spanish conquest the twelfth descendant of Manco Capac was on the throne, but, his father having married as one of his wives a woman of the Indian race, the prestige of the purity of Inca blood was tarnished, and the country was torn by civil wars, which greatly facilitated the progress of the Spaniards in their conquests under the unscrupulous Pizzaro.

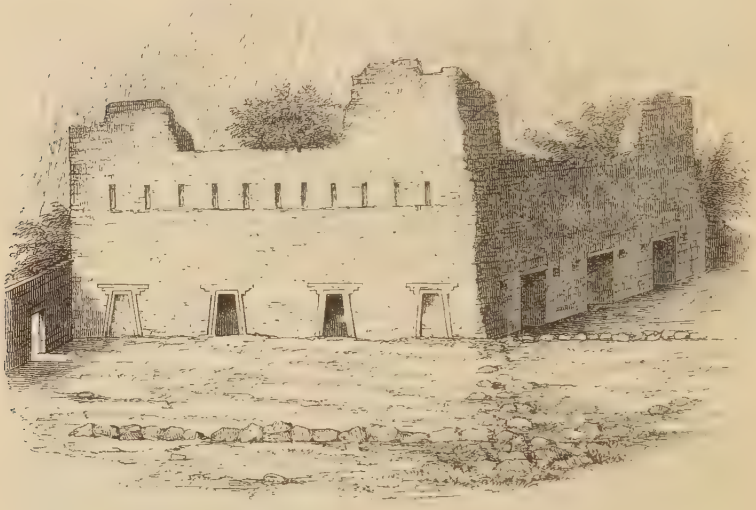


1177. Ruins of House of Manco Capac, in Cuzco. From a Sketch by J. B. Pentland.

Both from its style and the traditions attached to it, the oldest building of the Incas seems to be that called the house of Manco Capac, on an island in the lake of Titicaca. The part shown in the woodcut (No. 1177) is curvilinear in form, standing on a low terrace, and surmounted by upper chambers, hardly deserving the name of towers. All the doorways have sloping jambs, and the masonry is of rude, irregular polygonal blocks of no great size. Inside the wall are a number of small square chambers, lighted only from the doorway.

A more advanced specimen of building, though inferior in masonry, is the two-storeyed edifice called the house of the Nuns, or of the Virgins of the Sun, in the same place (woodcut No. 1178). It is nearly square in plan, though with low projecting wings on one side, and is divided into twelve small square rooms on the ground-floor, and as many

similar rooms above them. Several of these chambers were surrounded by others, and those that had no doors externally had no openings like windows (except one with two slits in the upper storey); and they must have been as dark as dungeons, unless the upper ones were lighted from the roof, which is by no means improbable. The most striking architectural features they possess are the doorways, which exactly resemble



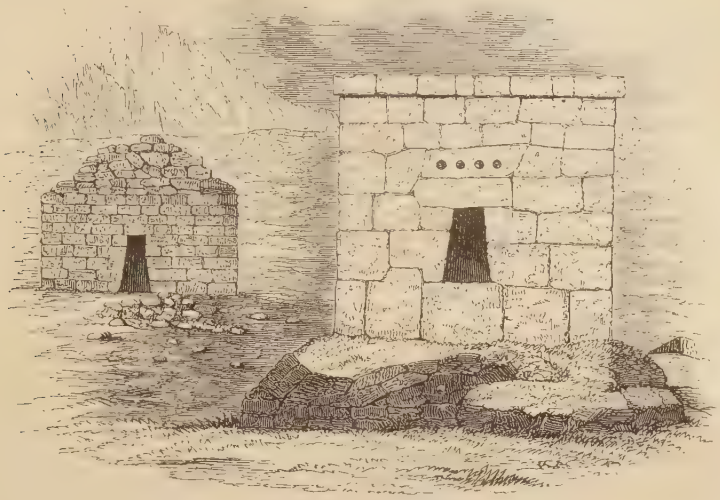
1178. House of the Virgins of the Sun. From a Sketch by J. B. Pentland.

the Etruscan, both in shape and mode of decoration. We are able in this case to rely upon the accuracy of the representation, so that there can be no doubt of the close similarity.

Another building on the island of Coata, in the sacred lake of Titicaca, is raised on five low terraces, and surrounds three sides of a courtyard, its principal decoration being a range of doorways, some of them false ones, constructed with upright jambs, but contracted at the top by projecting courses of masonry, like inverted stairs, in this instance, however, only imitative, as the building is of rubble.

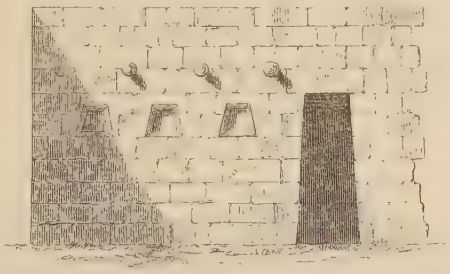
The masonry of the principal tomb represented in the woodcut No. 1179 may be taken as a fair specimen of the middle style of masonry; less rude than that of the house of Manco Capac, but less perfect than that of many subsequent examples. It is square in plan—a rare form for a tomb in any part of the world – and flat-roofed. The sepulchral chamber occupies the base, and is covered by a floor, above which is the only opening. The other tomb in the background is likewise square, but differs from the first in being of better masonry, and having been originally covered, apparently, with a dome-shaped roof either of clay or stucco. Some of these tombs are circular, though the

square form seems more common, in those at least which have been noticed by Europeans.



1179. Peruvian Tombs. From a Drawing by J. B. Pentland.

A specimen of the perfected masonry of the Peruvians is represented in the woodcut No. 1180. It is a portion of the wall of a Caravanserai, or *Tambos*, erected by the last Incas on the great road they made from their oldest capital, Cuzco, to Sinca. The road was itself perhaps the most extraordinary work of their race, being built of large blocks of hard stone, fitted together with the greatest nicety, and so well constructed as to remain entire to the present day in remote parts where uninjured by the hand of man.

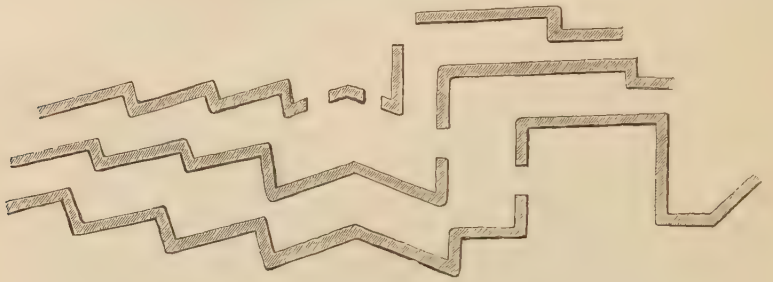


1180. Elevation of Wall of Tambos. From Humboldt's 'Atlas Pittoresque.'

The masonry here, as will be observed, is in regular courses, and beautifully executed, the joints being perfectly fitted, and so close as hardly to be visible, except that the stones are slightly convex on their faces, something after the manner of our rustications.

Intermediate between the two extremes just mentioned are the walls of Cuzco, the ancient capital of the kingdom, forming altogether the most remarkable specimen now existing of the masonry of the ancient Peruvians. They are composed of immense blocks of limestone, of

polygonal form, but beautifully fitted together: some of the stones are 8 and 10 ft. in length, by at least half as much in width and depth, and weigh from fifteen to twenty tons; these are piled one over the other in three successive terraces, and, as may be seen from the plan, are arranged with a degree of skill nowhere else to be met with in any



1181. Sketch Plan of Walls of Cuzco. No scale.

work of fortification anterior to the invention of gunpowder. To use a modern term, it is a fortification *en tenaille;* the re-entering angles are generally right angles, so contrived that every part is seen, and as perfectly flanked as in the best European fortifications of the present day.

1182. View of Walls of Cuzco. From a Sketch by J. B. Pentland.

It is not a little singular that this perfection should have been reached by a rude people in Southern America, while it escaped the Greeks and Romans, as well as the Mediæval engineers. The true method of its attainment was never discovered in Europe until it was forced on the attention of military men by the discovery of

gunpowder. Here it is used by a people who never had, so far as we know, an external war, but who, nevertheless, have designed the most perfectly planned fortress we know.

Between these various specimens are many more, some less perfect than the walls of Cuzco, showing greater irregularity in the form, and a greater admixture of large and small stones, than are there found; others, in which all the blocks are nearly of the same size, and the angles approach nearly to a right angle. Examples occur of every intermediate gradation between the house of Manco Capac (woodcut No. 1177) and the Tambos (woodcut No. 1180), precisely corresponding with the gradual progress of art in Latium, or any European country where the Cyclopean or Pelasgic style of building has been found. So much is this the case, that a series of examples collected by Mr. Pentland from the Peruvian remains might be engraved for a description of Italy, and Dodwell's illustrations of those of Italy would serve equally to illustrate the buildings of South America.

From what has been said above, it seems by no means improbable that at some future time we may be able to trace a connection between the styles of architecture existing in Central America and those on the eastern shores of the old world; but, for the present at least, that of Peru must be considered as one of the isolated styles of the world. At he same time it must be confessed that no style offers more tempting baits to those who are inclined to speculate on such a subject. The sloping jambs, the window cornice, the polygonal masonry, and other forms, so closely resemble what is found in the old Pelasgic cities of Greece and Italy, that it is difficult to resist the conclusion that there may be some relation between them. Either, it may be argued, men in certain circumstances do the same things in the same manner, as instinctively as bees or beavers, or by some means or other the arts of the old world have been transferred to the new. In the present instance, at all events, the latter view can hardly be sustained. The distance of 2000 years in time that elapsed between the erection of the European and American examples is too great to be easily bridged over, and the distance in space is a still more insuperable objection. Even, however, if it were attempted to explain these away, the introduction of the Aymara style is in itself sufficient to settle the question. If that style preceded that of the Incas, as there is every reason to believe it did, it cuts across any such speculations. Its jambs are perpendicular, its angles rigidly rectangular, its surfaces smooth, and it is altogether as unlike the style that succeeded it as can well be conceived. We seem, therefore, forced to the conclusion that the sloping jambs of Inca architecture are only a natural expedient for shortening the length of the lintel, and their polygonal masonry probably arose from the surfaces of

cleavage or fracture, into which certain kinds of stones naturally split.

Although, therefore, we are unable, with our present knowledge, to trace the external relation of the Peruvians to the other races of the American continent, there can be no doubt that when her architectural remains are properly investigated, we shall understand her history, and be able to assign to her civilization its proper rank, as compared with that of other nations. Eventually, also, we need not despair of being able to determine whether the gentle subjects of the Incas belonged to the Polynesian, or to which other of the great families of mankind.

When, indeed, we look back on the progress that has been achieved in the last few years, it seems difficult to assign a limit to the extent to which architecture may be employed in investigations of this sort. It was not, of course, even possible to rise to the conception of such a scheme for tracing the affinities of mankind, till the greater part of the world had been explored, and a sufficient amount of knowledge attained to render it certain that no such exceptions existed as would invalidate the general conclusions arrived at. Now, however, that this has been done, and that we are enabled to survey and to group the whole, it may safely be asserted that the great stone book on which men of all countries and all ages have engraved their thoughts, and to which they have committed their highest aspirations, is, of all those of its class now open to us, the most attractive, and for some purposes the most instructive. No one who has followed the enquiry can well doubt that in a few years more, architectural ethnology will take its proper rank as one of the most important adjuncts to all enquiries into the affinities and development of the various families of mankind.

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END OF VOL. II.

NOTE.—Since the sheets of this work were printed off, a large collection of original sculptures, from the Tope at Amravati, have been discovered—concealed under bales of cotton and rubbish—in the coach-house of Fife House. An examination of these would induce me to modify, to a considerable extent, an expression used on page 448, line 15 from the bottom. In the south of India, at least at one time, Buddhism was so mixed up with Serpent-worship, that the two are undistinguishable.

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